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WORKS BY SARA A. BURSTALL, M.A.,

HEAD MISTRESS, MANCHESTER HIGH SCHOOL FOR GIRLS; AND LECTURER IN EDUCATION IN THE UNIVERSITY OF MANCHESTER.

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PUBLIC SCHOOLS FOR GIRLS

A SERIES OF PAPERS ON THEIR HISTORY, AIMS, AND SCHEMES OF STUDY

BY

MEMBERS OF THE ASSOCIATION OF HEAD MISTRESSES

EDITED BY

SARA A. BURSTALL

PRESIDENT OF THE ASSOCIATION OF HEAD MISTRESSES

AND

M. A. DOUGLAS

CHAIRMAN OF THE CURRICULA SUB-COMMITTEE

LONGMANS, GREEN AND CO.

39 PATERNOSTER ROW, LONDON

NEW YORK, BOMBAY AND CALCUTTA

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TO THE MEMORY OF

FRANCES MARY BUSS

AND

DOROTHEA BEALE

PREFACE.

THIS contribution to the many thoughts and theories about education, which are being published every day, is the outcome of a suggestion made by Mrs. Woodhouse (President of the Association of Head Mistresses from 1907 to 1909) that a Sub-Committee should be appointed to make a report on the Curricula of Public Secondary Schools for Girls. The first step of this Curricula Sub-Committee was to draw up a list of some twenty-three schools,[1] to which a preliminary inquiry should be sent; these twenty-three schools were selected because they were considered in some ways to be typical of many others, and to include every variety of public secondary schools

[1] Blackheath High School, Bedford High School, Bedford Modern School, Bradford Grammar School, Central Foundation School (London, E.C.), Cheltenham Ladies' College, Clapham High School, Eltham Secondary School, George Watson's Ladies' College (Edinburgh), Godolphin and Latymer School (Hammersmith), Godolphin School (Salisbury), James Allen School (Dulwich), Kentish Town London County Council School, Leeds High School, Manchester High School, Milton Mount School (Gravesend), Mount School (York), North London Collegiate School, Queen Anne's School (Caversham), St. Paul's Girls' School, Wakefield High School, Winchester High School, Wycombe Abbey School (Bucks).

for girls; boarding-schools and schools with a large element of boarders, as well as the great day schools; those endowed from the munificence of the past; high schools of the original type (in general proprietary in constitution), and the new secondary schools founded by local authorities in cities and counties. A long and detailed inquiry form was sent to these schools, which requested information with regard to the teaching of every subject, including Domestic Arts, Handwork, and Gardening, and also contained questions as to arrangements for Physical Exercises and Games, and everything connected with school life.

When this information was supplied it became evident to the Curricula Sub-Committee that there was material which might form the basis not of a mere report, but of a book which should contain a historical survey of the past and present development of the schools, and also some suggestions as to constructive policy for the future.

At this point, and shortly before the Annual Conference in June, 1909, a circular was sent to every member of the Association telling them about the work begun by the Curricula Sub-Committee, and asking them to consider the matter before coming to the Conference, when it would be brought forward.

When the Conference of 1909 met, a hearty approval was given to the continuance of the work. At a meeting of the Curricula Sub-Committee of

20 November, 1909, it was decided that this book should contain:—

1. A chapter containing the history of the development of Public Secondary Schools for Girls.

2. A series of papers describing the present manner of dealing with various school subjects, to be written by members of the Association of Head Mistresses who are especially qualified to deal with each subject.

3. A paper on Examinations—their use and abuse.

4. Papers on the general aims and ideals in education and suggestions as to possible reforms.

When the Annual Conference met in June, 1910, the work was well on the way to completion, and the following resolution was proposed by the President (Miss Burstall) and seconded by Mrs. Woodhouse, and carried *nem. con.*:—

> "That this Conference empowers the Executive Committee, through its officers, to proceed to publish a report on Curricula on the lines indicated at this meeting; it being understood that the responsibility for particular details in any section rests with the authors of that section."

This book, therefore, goes forth with the sanction of the whole Association, although the Association does not hold itself responsible for any opinions expressed by the various writers, who were left

quite free both to collect information and to express their own opinions.

In concluding this short account of this part of the work of the Association of Head Mistresses, which has been concerned with many other matters of public educational importance during these last two years, the Curricula Sub-Committee wish two things to be borne in mind by any teachers or parents or members of governing bodies who may be interested in reading the following pages :—

1. That the writers of the various portions are busy women, who could spare but little time from their school work to contribute their own experience to the great body of experience of all teachers.

2. That they are fully conscious that anything they have to say can be useful only from the fact that while it is their duty to teach, it is also their lifelong privilege to learn.

One omission may be noted in the table of contents; there is no chapter on discipline. This has arisen partly from the fact that the work of the Association from which this book results began with the consideration of Curricula. But the omission is deliberate. It is very difficult to give a description of this all-important but somewhat intangible part of school life. Discipline exists for the sake of securing the right kind of unity and harmony in the body corporate; it exists also for the sake of developing the qualities of self-control, obedience, and loyalty; and it tends to create that most vital element in a

school called *school tone*, because it gives the key-note to the whole intention of the place where it exists. The principles which underlie the discipline in public schools for girls at the present day are based upon the idea that those in authority should set themselves to understand and help those whom they govern. First, the rule must be firm, but the rules made should be liable to that variation which is dictated by common sense and a living sympathy, which takes account of the individual as well as of the corporate life. Again, in all public schools the girls to a great extent are learning to govern themselves. The School Prefects, whether as "Sixth Form," or Prefects of other Forms, or of Boarding Houses, or of Dormitories, or as representing particular sections in games or other school societies, have an influence on which the character of the whole school depends.

SARA A. BURSTALL

(President of the Association of Head Mistresses).

M. A. DOUGLAS

(Chairman of the Curricula Sub-Committee of the Association of Head Mistresses).

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CHAPTER I.

RISE AND DEVELOPMENT OF PUBLIC SECONDARY SCHOOLS FOR GIRLS, 1850-1910.

WHEN we ponder on these dates, the famous phrase, " 'tis sixty years since," which Scott used as his sub-title to "Waverley," flashes inevitably into the mind. Two generations have passed since this great movement began; those of us who in middle age are now privileged to carry on the work in these schools, have ourselves for the most part been educated in them; and we see growing up around us a second, nay, here and there even a third, generation of school grand-children and great-grand-children. As we look back, we cannot but be thrilled at the magnitude of achievement; how many hopes have been fulfilled, how much has been done in the past sixty years! As we read, in some University Library or High School Hall, the manifestoes of the pioneer workers, we have only to look up from the page to see their dreams realized.

Students of this question have noted that there were two particular purposes in the minds of those who worked for women's education at the beginning of the movement. The first was to give girls and women the opportunity of individual development, so that they might make the best of what was in them. This *humane* ideal, as it may be called, meant that the woman should have her rights as a human being to mental culture, and should share in the

spiritual inheritance of the race. This principle pervades the writings of Emily Davies, Frances Power Cobbe, Dorothea Beale, and other pioneers.[1] The other principle was economic, the importance of giving girls of the middle classes a good education, so that they might earn their own living. Frances Mary Buss, the founder of our Association, felt deeply, and with all the sympathy of her motherly heart, the need of this reform. She writes in 1871:—

"But as I have grown older the terrible sufferings of the women of my own class[2] for want of good elementary training have more than ever intensified my desire to lighten, ever so little, the misery of women brought up to be married and taken care of, but left alone in the world destitute. It is impossible for words to express my fixed determination of alleviating this evil." When quite a girl she struck the key-note of her harmonious life—"Why are women so little thought of? I would have girls trained to match their brothers!"

To us who now already can see the working out of these two principles, individual development, and power to earn, a third also makes itself felt, the value to the community of the work, paid or unpaid, of a great mass of educated women, the social utilization of their intellectual and moral capacities, which in earlier days had run to waste.[3] We admire the work of the great engineers who utilize the forces of nature for the service of man: even more admirable and more important for the life of the nation is it to direct into channels of usefulness the strong forces

[1] See "Women's Work and Women's Culture," a series of essays. Edited by Josephine E. Butler. Published in 1869. (Macmillan.)

[2] Miss Buss was the daughter of an artist.

[3] See the works of Charlotte Brontë and Jane Austen, even of Mrs. Henry Wood.

of mind, the stronger forces of will and devotion that rise in a woman's soul.

It is not the purpose of this article to trace the rise of the movement for women's education in the century before 1850, to deal with Hannah More, Mary Wollstonecraft Godwin, Harriet Martineau, Mary Somerville, or to point out how the period from 1800-50 brings with it in England the beginnings of state action in education, that action which in the next twenty-five years between 1850 and 1875 was so markedly to increase. The progress made during the mid-Victorian period was indeed but the advance of a wave which had risen further back in the century. We may deal with this onward movement in three stages, all closely related, and big with influence on the future: Colleges, Examinations, University Extension. Most people know that Queen's College, London, began the work in 1848 under the leadership of F. D. Maurice, then a Professor of King's College, London. The name was not without significance, for one of the Queen's maids of honour, a Miss Murray, helped in collecting money for this purpose. The lectures given there by men like Trench, Kingsley, and Maurice were in a sense the beginnings of better education for girls. Queen's College, whatever else it did, educated Francis Mary Buss, Dorothea Beale, Elizabeth Day of Manchester, and other less well-known teachers. Bedford College, now part of the University of London, was founded in 1849, and among its pupils, a few years later, was Sophia Willock.[1] The Cambridge Colleges come a little later: the Ladies' College at Hitchin, the nucleus of Girton, was opened by Miss Emily Davies in 1869. In 1870 Miss Clough opened her house for women at Cambridge,

[1] Better known as Mrs. Bryant, President of the I.A.H.M., 1903-5.

from which Newnham grew. It is profoundly significant that the colleges came first in the movement for the reform of women's education in England; instinctively the leaders began at the right end. This element in the tradition, the close relation with the University, has grown stronger and stronger every year, and at this very moment, the demand on the Universities to take up the pressing question of the Domestic Arts and Sciences, is the carrying out of a fundamental principle of the whole movement.

The second stage, the establishment of local examinations by Oxford and Cambridge for young persons not members of the University, was an attempt to aid middle-class education at a time when the idea of state control or interference in it was anathema. Sir Thomas Acland, and the Rev. Frederick Temple, known to this generation as the Archbishop of Canterbury who crowned King Edward, began this piece of work in 1857 and 1858. Temple thought it to be the first step in the improvement of middle-class education. The opportunity these examinations afforded of an external test and stimulus was eagerly seized by some few women, who were seeking to improve the schools, and in 1862 Miss Emily Davies led a movement for the admission of girls to the Cambridge Locals. By that time there were several schools ready to profit by these examinations; Miss Buss's own school dates its formal foundation from 1850, when, under the Rev. David Laing, what had been an ordinary small private school assumed a more public character. The Ladies' College, Cheltenham, was established in 1853, and Miss Beale had become Principal in 1858. There were also a certain number of good private schools ready to send in pupils for these examinations. The present writer, whose school career began in 1871, in the Lower

School (the Camden School for Girls) that year opened by Miss Buss, very well remembers the great importance and value in those early days of the local examinations, which now have become unnecessary, and it may be even harmful, in many of the girls' schools of to-day.

The third stage was the establishment of local lectures by university men, to give opportunities to grown-up women and to older girls who had left school. This system was most successful in the North of England, where Miss Clough was the secretary of an association of ladies, which established lectures in Leeds, Liverpool, Manchester, and Sheffield. These were delivered by Professors James Stuart, Seeley, Sir Henry Roscoe, and A. S. Wilkins of Manchester, Mr. Charles Pearson, F. W. H. Myers, and other friends of the movement. While we honour the great women who began this work, it should never be forgotten that we owe as much to the distinguished and chivalrous men who worked with them: not only such prominent figures as John Stuart Mill, whose influence is still far from exhausted, James Bryce, and Joshua Fitch, Henry Sidgwick, and G. F. Browne[1] at Cambridge; but many other "smaller stars"[2] who as Newbolt says:—

> Passed content, leaving to us the pride
> Of lives obscurely great.

From this system of lectures grew the Cambridge Higher Local Examination for women, and Newnham College, with all it has meant, through its alumnæ, to the girls' schools.

Thus by 1870, the critical year in European History

[1] Now Bishop of Bristol.

[2] Particularly in the University of London where the characteristic fact was that the movement was genuinely democratic, and where there was little division of opinion.

that saw the foundation of the third Republic in France, the rise of the German Empire, the completion of Italian Unity, and in England the first Education Act, establishing school boards, there already existed in germ all the elements from which the girls' high schools were to be formed and influenced.

There needed, however, some impulse from public opinion to quicken these germs into fuller life: such an impulse was given by the "Report of the Schools Enquiry Commission," which was presented to Parliament in July, 1867, and published in 1868. There had been two previous commissions, one to inquire about the nine great public schools for boys, and one about elementary education. In 1864, what from its Chairman is called the Taunton Commission, was appointed, to inquire into the education given in schools not comprised within the scope of the other commissions. These wide limits made it possible for the Commission to take up the education of girls, which probably was not in the original intention of the framers of the Letters Patent. Most people know that the work of this Commission marks an epoch in the development of English secondary education; but until one reads the actual Report, one does not realize how completely these Commissioners laid down the lines on which future advance has been made. Their investigations were extraordinarily thorough and elaborate. By great good fortune, the Commission included persons favourable to the new movement for the better education of women, and two of the Assistant Commissioners, James Bryce for Lancashire, and Joshua Fitch for Yorkshire, were its warm friends. Nothing better has ever been said on the importance and objects of girls' education, than certain passages in their Reports.[1] One

[1] Volume IX.

we must quote. Mr. Fitch is speaking of the prejudice against girls' education.

They will not recognize the plain facts of life that women, who have more leisure than men, have it in their power to make, even unconsciously, the noblest use of any culture they possess; and that every sensible man who now marries with a reasonable prospect of happiness, would have a still better prospect of it if his wife could share his highest intellectual pursuits. It is wonderful to see how common is the assumption that the repose and enjoyment of home are in some way incompatible with intellectual education for women. It is true that no one seems able to point to any example in illustration of the doctrine; or to assert that when we ascend into the households in which the highest feminine culture prevails we find any lack of grace or of affection, any less regard for children, or any disposition to neglect household duties. But it would not be difficult to point to thousands of instances of men who have started in life with a love of knowledge, and with a determination to master at least some one department of honourable thought or inquiry; yet who have gradually sunk into habits of mental indolence, have allowed all their great aims to fade out of view, and have become content with the reading supplied by Mudie and the newspapers, simply from a dread of isolation and because these resources sufficed for the intellectual aliment of the rest of the household. There is no hope for the middle classes, until the range of topics which they care about includes something more than money-making, religious controversies, and ephemeral politics; not until they consider that mental cultivation, apart from its bearing on any of the business of life, is a high and religious duty. When they come to consider this, they will set as great a value on evidences of intellectual power or literary taste when they are put forth by a girl as by a boy; and they will feel that the true measure of a woman's right to knowledge is her capacity for receiving it, and not any theories of ours, as to what she is fit for, or what use she is likely to make of it.

However friendly the Commissioners were, they had to be asked to extend their investigations to girls' schools. This work, like so much else of importance, was done by Miss Emily Davies, who along with other ladies addressed

to them a Memorial to this effect. The Commissioners on this summoned before them certain ladies best qualified to express opinions on the subject of this Memorial, among them Miss Davies herself, Miss Beale, and Miss Buss.

The step thus taken proved to be of far-reaching importance; Miss Buss herself always dated the beginning of the movement from that foggy day in November, 1865, when she and Miss Davies went to give evidence before the Commission. Now, when women take such a share in public work and sit on Royal Commissions, University Courts, and Town Councils, we can hardly realize what a great step in advance was made that winter day. A Commissioner said afterwards, "We were all so much struck by their perfect womanliness; why, there were tears in Miss Buss's eyes".

When the Report came out, the chapter devoted to girls' schools, VI, made a strong impression. The impulse it gave to public opinion led directly to the Girls' Public Day Schools Company and to the foundation of independent high schools like that of Manchester. We make no apology for quoting largely from this all-important chapter.

If one looks to the enormous number of unmarried women in the middle class who have to earn their own bread, at the great drain of the male population of this country for the army, for India, and for the Colonies, at the expensiveness of living here, and consequent lateness of marriage, it seems to me that the instruction of the girls of a middle-class family, for anyone who thinks much of it, is important to the very last degree.

The general deficiency in girls' education is stated with the utmost confidence, and with entire agreement, with whatever difference of words, by many witnesses of authority. Want of thoroughness and foundation; want of system; slovenliness and showy superficiality; inattention to rudiments; undue time given to accomplishments, and those not taught intelli-

gently or in any scientific manner; want of organization. These may sufficiently indicate the character of the complaints we have received in their most general aspect. It is needless to observe that the same complaints apply to a great extent to boys' education. But on the whole the evidence is clear that, not as they might be but as they are, the girls' schools are inferior in this view to the boys' schools.

We find, as a rule, a very small amount of professional skill, an inferior set of school books, a vast deal of dry uninteresting task work, rules put into the memory with no explanation of their principles, no system of examination worthy of the name, a very false estimate of the relative value of the several kinds of acquirements, a reference to effect rather than to solid worth, a tendency to fill or adorn rather than to strengthen the mind.

There is weighty evidence to the effect that the essential capacity for learning is the same, or nearly the same, in the two sexes. This is the universal and undoubting belief—and the unquestioned practice corresponds to it—throughout the United States; and it is affirmed, both generally and in respect to several of the most crucial subjects, by many of our best authorities. It is impossible to read the account of a really efficient girls' school, such, for instance, as the Ladies' College at Cheltenham, under Miss Beale, without acknowledging the truth of this to a great extent. Mr. Hammond reports that in mixed schools taught by masters he found no noticeable difference of attainments in the two sexes.

The Commission recommended day schools.

Assuming, as we may fairly do, that the homes of our middle class are commonly favourable to the growth and development of the female character, we are ourselves inclined to the opinion, which also appears somewhat to preponderate in the evidence, that in the case of girls more than in that of boys the combination of school teaching with home influence, such as day schools admit of, is the most promising arrangement.

They found the teaching bad in girls' schools, but they recognized that this was due not to native deficiency, "for women might be called nature's own teachers"; the deficiency was due to removable causes.

The two capital defects of the teachers of girls (says Mr. Bryce), are these: they have not themselves been well taught, and they do not know how to teach. Both these defects are accidental and may be remedied.

The main foundation of improvement in female teachers is to be laid in the improvement of the schools in which they are themselves educated.

A chief part of the work of the Commission was to inquire into ancient educational endowments.

Some of these (Miss Davies urged), had been left for the education of "children" and "youth," and therefore girls ought to have a share in them.

But after making all allowances for these and similar possible additions to the list, it is evident that the endowments for the secondary education for girls bear an infinitesimal proportion to the similar endowments for boys.

There is on page 565 a meagre list of the Endowed Schools for Secondary Instruction of girls: it contains but seventy-four schools. We of to-day recognize among these a friend: "The Godolphin Ladies' School, Salisbury, provides maintenance and education free for twelve young orphan gentlewomen". The 200 young gentlewomen, ordinary day pupils and boarders, whom the Head Mistresses' Conference saw there last June demonstrate the change that has come about since 1867. The Commission declared:—

The exclusion of girls from the benefit of Educational Endowments would be in the highest degree inexpedient and unjust; and we cannot believe that in any comprehensive adjustment of these great questions, it will be defended or maintained.

Appropriation of almost all the educational endowments of the country to the education of boys is felt by a large and increasing number both of men and women, to be a cruel injustice.

Such passages as these come home to the hearts of those who have received their education through the ex-

tension to girls of the benefit of endowments, and who have the joy every day of their lives of seeing in modern endowed schools how girls can profit by the opportunities now open to them.

The Commissioners definitely recommended: —

> On the particular point of the use of endowments, wherever in the administration of them it shall be found possible to admit girls' schools to a direct and substantial participation in them, we conceive that, with a few modifications, that may be done in accordance with what we have now recommended for boys' schools.

Two years later the Endowed Schools Act was passed, and the Endowed Schools Commission was established with powers to make schemes for the better government and management of endowed schools; their powers, as we know, are now merged in the Board of Education. All over the country, as a consequence of their work, girls' schools have been endowed, sometimes from the surplus value of estates left for the education of boys and men, and sometimes from other sources. The King Edward Schools in Birmingham, the Schools of the Harpur Trust at Bedford, the Manchester and Pendleton High Schools endowed from the revenues of the Hulme Trustees, and many more, especially in London, are examples. It was a great joy to Miss Buss when between 1872 and 1875 she was able to secure an endowment for her two schools from the Platt Estates administered by the Brewers' Company.

As we have said, the Report of the Schools Inquiry Commission led directly to the establishment of high schools for girls. The most important piece of this work was done by what we now know as the G.P.D.S. Trust. The story of its origin may be told in the words of Miss F. Gadesden, taken from a lecture delivered

by her at the Cambridge Summer Meeting, August, 1900:—

Government had inquired, but would do no more. The remedy was left to private enterprise; and, most happily for those who have come after, the women and the men with the brains to understand what was wanted, and the capacity and courage to carry out the reforms, were at hand, and through their splendid work "Knowledge is now no more a fountain sealed".

The Report of the Commission was published. Meetings were held, speeches made, notably by Mrs. Grey; and in 1871 the next great step onwards was taken when Mrs. Grey, with the late Lady Stanley of Alderley, Miss Gurney, and others, founded the "National Union for Improving the Education of Women of all Classes".

Among the objects the Union had in view two were specially mentioned.

1. To promote the establishment of good and cheap day schools for all classes above those attending the elementary schools, with boarding-houses in connexion with them, when necessary, for pupils from a distance.

2. To raise the social status of female teachers by encouraging women to make teaching a profession, and to qualify themselves for it by a sound and liberal education, and by thorough training in the art of teaching; and to secure a test of the efficiency of the teachers by examinations of recognized authority and subsequent registration.

The initial work of the Union was the foundation of the Girls' Public Day School Company.

This company was inaugurated at a public meeting at the Albert Hall in 1872, and was formed with the object of obtaining capital to provide properly equipped schools.

The Princess Louise, Duchess of Argyll, signed the circular explaining the object of the company, and became its "Patroness". Her interest in the schools has never ceased, and has been shown in many practical ways.

Among the promoters were Lady Stanley of Alderley, Miss Shireff, Mr. Stone, and Sir Douglas Galton, K.C.B., who have all passed away; Mrs. William Grey, Miss Gurney, and Mr. C. S. Roundell. To them and to those who worked with them, and who are now carrying on the work, England owes a great debt of gratitude.

The Council of the Girls' Public Day School Company inaugurated and developed the scheme of a network of schools all governed by the same Council, and yet each left to a certain extent free to grow and develop on its own lines in accordance with the individuality of its head and the requirements of the neighbourhood in which it is placed. The education supplied for girls was to be the best possible education; it was to correspond with that provided for boys in the great public schools; it was to be given at a moderate cost.

The first of the G.P.D.S. Company's Schools was opened at Chelsea in 1873; Notting Hill, Croydon, Norwich, and Oxford quickly followed. In 1900 the company had thirty-three schools, fifteen in and around London, with over 7000 pupils. These schools have always drawn largely on the women's colleges for their staffs, and have sent up many well-prepared girls to college. They have also encouraged games, art, and music, and have carried out the aim of the "National Union" of 1871 in "raising the social status of female teachers". The Report of the Secondary Education Commission of 1895, notes with approval the work of the Company in improving the education of girls. The example it set was followed in many places by the formation of local companies to establish proprietary schools on their lines. Some of these have now, since the Act of 1902, been taken over by the local authority, and have become county or municipal high schools. The Church Schools Company was founded in 1883 and found a field of operation in smaller towns, as well as in residential districts of London.

The story of the growth of the Ladies' College, Cheltenham, is familiar to many of us from the recently published life of Dorothea Beale. In Miss Zimmern's book, "The Renaissance of Girls' Education in England." [1] full details

[1] Innes & Co., London, 1898.

are given of the history of endowed and middle schools, high schools, and women's colleges. Here it is only needful to recall to the reader's memory the two striking facts which are often considered as the culmination of the earlier phase of the movement, the opening of degrees to women at the University of London in 1879, and the "Three Graces" of the Senate of the University of Cambridge in 1881, admitting women of right to the Tripos Examinations.

The question of the origin and causes of this great movement cannot be dealt with within the limits here assigned; nor indeed would the present writer pretend to be able to explain so remarkable a phase of human progress, but some causes, at all events, can be assigned even now.

The first was the influence of the French Revolution, both that of 1789, and the secondary wave of 1848. Emancipation is the key-word to most of the Victorian reforms, and, when so many classes and groups were being freed from the restrictions and disabilities of the past, women naturally profited from the advance of the great wave of reform that filled the nineteenth century in England from about 1820 to 1880. National education was for the first time being considered among us, and as Miss Elizabeth Wolstenholme, one of the Manchester pioneers, said:—

> When that question comes fairly before the nation, and the time for decisive action has come, as it must come very soon, it should be remembered that we are not one nation of Englishmen and another nation of Englishwomen, but one nation of English men and women, and that, as a matter of the soundest national policy and a means of the highest social well-being, it is imperative that Englishwomen should be as well instructed as Englishmen.[1]

[1] "Woman's Work and Woman's Culture," Essay IX.

This influence for emancipation expressed itself in the works of John Stuart Mill: "Liberty" in 1859, and "Subjection of Women" in 1869, just as Girton was opened.

But there was also an impulse from the Tory side, the result of the Oxford Movement of the 'forties. In the Middle Ages the position of women was in some respects better than after the Reformation; marriage was not their only career. Women had in the monastic life an independent position, and opportunities of intellectual and philanthropic work, sometimes even, like Catherine of Sienna and Theresa of Spain, of wide-reaching political and religious influence. All this was swept away in England by the Reformation. Puritanism, as one sees in the works of Milton, tended to lower the position of women. It is significant that the first woman of the modern world to begin philanthropic work again in England was Elizabeth Fry of the Society of Friends. The work of Wesley and the Evangelical leaders of the eighteenth and nineteenth century did something to improve the position of women, as we see even in fiction. The Dinah Morris of "Adam Bede," and the Sophia Newcome of Thackeray's picture, show women exercising an influence in mission work outside the home; but the Oxford Movement, which affected the cultivated Conservative classes and the clergy who believed in education, had a very remarkable effect in extending such benefits to girls, and in restoring to women under Church control opportunities of independent work. The Sisterhood Movement began in London and the South in 1845-50, just before the education movement. Miss Yonge's books illustrate this side of the matter.[1]

[1] Part of this section is taken from a book about to be published by the University Press, Manchester, "The Story of the Manchester High School for Girls," Sara A. Burstall.

The third is what some thinkers would consider the most important cause, the economic, which has been stated above in a quotation from the Schools Inquiry Commission Report. It was impossible for every woman of the middle class to marry, and, owing to the rise of manufactures, a great deal of work, that had been done in the homes, was now done on a large scale by machinery. Breweries, cotton and woollen mills, provision factories, carried on by men, had taken away a great deal of the work that women used to do in the homes. The superfluous woman must be educated for work of another kind. Even these women who had means "were degenerating," as Charlotte Brontë says in "Shirley,"

"To sour old maids,—envious, backbiting, wretched because life is a desert to them; or, what is worst of all, reduced to strive, by scarce modest coquetry and debasing artifice, to gain that position and consideration by marriage, which to celibacy is denied. Fathers! cannot you alter these things? Perhaps not all at once; but consider the matter well—when it is brought before you, receive it as a theme worthy of thought; do not dismiss it with an idle jest or an unmanly insult. You would wish to be proud of your daughters and not to blush for them —then seek for them an interest and an occupation which shall raise them above the flirt, the manœuvrer, the mischief-making tale-bearer. Keep your girls' minds narrow and fettered —they will still be a plague and a care, sometimes a disgrace to you; cultivate them—give them scope and work—they will be your gayest companions in health; your tenderest nurses in sickness; your most faithful prop in age."

A modern French writer considers that the personal example of a number of brilliant women in the late eighteenth and early nineteenth century had a marked influence on the growth of educational opportunities for other women.

This was the case in science with Mrs. Somerville; in romantic and social literature with Harriet Martineau, Mrs. Gaskell, George Eliot, Charlotte Brontë, Elizabeth Barrett Browning, the poetess. And other women, Mary Carpenter, Frances Power Cobbe, Miss Clough, Florence Nightingale, Josephine Butler, and a host of others, were distinguished by the scope of their social action. Their powerful and original personalities, accompanied by the disseminating mechanism of publicity, made them the centres of extraordinarily powerful psychic radiations which far exceeded the limits of their immediate environments. The great majority of their educated fellow-countrymen and women read their writings and knew their lives; thus their thoughts acted on the consciousnesses of many. In the future generations of women something of their spirit will be found. And being universally known they naturally became representatives of their sex. The powers of feminine nature are gauged by their standard; their commanding personalities have contributed to modify public opinion as to the limits of woman's sphere; their ideas and efforts have greatly improved the condition of their sex.[1]

Some persons consider, and with justice, that Queen Victoria's own influence counted for much; it was not definitely exerted in the direction of giving wider opportunities to other women, for the Queen was most conservative in her views on these matters, but, nevertheless, her position, her character, her example, tended to help the cause of women during her long reign more than is often realized.

In the period between 1880 and the present day, during what may be called the second generation, no very marked changes have taken place in the education of girls, though one can see the beginnings of changes which are coming into operation now. Public examinations, which had been valuable as a stimulus in the early days of the movement, were at one time allowed to have too

[1] "The English Woman," by David Staars. Smith, Elder & Co. 1909.

much effect, and girls' education was found too academic in tone and spirit, as well as in result; it became a reproach to the schools that they had modelled their system too much on that for boys. A certain reaction also made itself visible with the passing of the wave of reform that filled the Victorian Era to about 1880. Militarism and collectivism affected public opinion; men believed more in the State and the claim of the State on the individual.

Greater emphasis is now placed on the special duties of women as such to the community, on the basic value to the social organism of the family and the home, on the reality and importance of biological and sociological differences between men and women. As a consequence the schools are asked, or ask for themselves, "Should there be differences between girls' and boys' education?" "What are the special duties of girls and women, their place in the world, their work in the social order?" If the second question is honestly answered, the first must be answered in the affirmative.[1]

At this moment we cannot yet discern what will be the result of all this change of mental attitude.

As regards institutions, the most important point to note since 1880 is the growth and development of the new type of boarding-school for girls, formed definitely on the model of the great public schools for boys, and appealing roughly to the same social class for support; government by prefects, games, the "house" system are characteristics of these schools. St. Leonard's School, St. Andrews, opened in 1875, and always officered largely from Girton, may be considered the first of these, but the example has been widely followed. Private schools, both boarding and day, have also been influenced by the high schools, and many are thoroughly efficient. Some per-

[1] "English High School for Girls," by S. A. Burstall. Longmans & Co., 1907.

sons think that as in America they will become increasingly popular; however, since state control of the public secondary school for girls in England is not by any means as rigid as in the United States, the public school with us is still able to secure the services of the best teachers.

How far the Act of 1902, which for the first time established local authorities to deal with secondary education, will alter the existing system of girls' secondary education is for the future to discover. What it has done is to add very considerably to the provision of schools where, at low fees, girls receive a sound and publicly guaranteed training, leading to business and professional life and the universities. The higher grade schools, which had arisen under school boards, especially in the North, have been altered and improved, becoming Municipal or County Secondary Schools, often specialized for the needs of girls. A certain number of existing high schools, which were suffering from want of means, have been taken over by the local authorities, have been provided with new buildings, and have entered upon a new life. In certain areas, the authorities have founded new schools; the London County Council has been particularly conspicuous in this respect, its new secondary schools for girls offering high salaries for assistants. Huddersfield has established a wholly new First Grade Municipal High School for Girls; Liverpool is opening a series of such schools; the County Authorities of Kent, Surrey, and Cheshire are most active in covering their areas with a complete network of secondary schools, either by taking over existing institutions (e.g. Macclesfield, Sale, Wallasey in Cheshire) or by founding new ones. The writer speaks of cases known to her; others all over the country could give many such examples of the vigour, interest, and energy shown to-day in education by the

new authorities. The danger is, as in America, that by an excess of officialism they may crush the spirit of the teachers. There is also a danger lest the best traditions of secondary education may not prevail in the new order, and that a harmful uniformity may be imposed. The influence of the Board of Education, however, and of the more enlightened authorities themselves, is being exerted to overcome these dangers.

We are living in a period of change, when our national institutions have to adapt themselves to a new environment, when the old ideals of liberty, of individual effort, and variety of social type must be still preserved, under conditions when State control, discipline, and collective action, as in Germany, are necessities for the preservation of national existence. In education, as in other departments of life, we have to combine what seem at first incompatible principles, but we may take courage from the example of the past. Arnold and Thring, and the great women, who founded our Association, achieved this task; may we be accounted worthy to follow in their footsteps!

Taking this view, the sound view as it seems to me, of the real limitations on the activity of the modern bureaucratic State, the English educational leaders were resolved to preserve the distinct corporate traditions, the moral personalities of the different schools and colleges. Yet at the same time they admitted the right of the State to exercise a general supervision over them. They claimed no freedom from obligation to the community. They only asked that the schools should be allowed to retain each its own capacity for corporate growth, each its own living personality, each its own self-perpetuating ethical tradition. With the State, they thought, rightly lay the power of requiring that each school should discharge its own appointed duty with intellectual efficiency and with purity of internal administration. But they held that in the work of a good school the spiritual and the intellectual functions are inseparably combined and that the penetrating influences of corporate life are an essential part of any education which is to

shape character. Thus, the great English churchmen who were the leaders of our higher education mediated between the old order and the new. They endeavoured to combine what was good in both. And, almost unconsciously, they built up a theory of education which, since their time, has influenced the thought of the world. In this view, which we owe to them and are now applying to parts of the field of education with which they had no immediate concern, three things are indispensable —the cultivation of a sense of individual responsibility, searching intellectual and moral discipline, and membership of a society, spiritual in its ultimate sanctions and religious in the pre-suppositions of its corporate life.[1]

SARA A. BURSTALL.

[1] Prof. Sadler, Pan-Anglican Congress, 1908.

CHAPTER II.

JUNIOR SCHOOL WORK.

SINCE the middle of the eighteenth century great changes have taken place in the education and training of children. Whereas before that period the chief aim was to impart knowledge, to induce a scholar to learn and remember, at that time arose a new conception of education, which realized the demand of the child to be educated rather than of the book to be taught.

To save unnecessary repetition I shall assume the acceptance, in general effect, of the modifications of educational practice involved in Pestalozzi's conception of education, in the systematized theories and reforms of Froebel, and in the Herbartian doctrine of interest.

The application of these theories to the aims, principles, and methods of the junior school I shall endeavour to set forth as far as the limits of a single chapter will allow.

It is happily no longer necessary to plead for a recognition of these great Reformers—pioneers who enlarged the vision of education in the direction of the child's needs, physical, mental, and moral, and who insisted on a better method of education following the child's interests and activities.

The Teacher.—We owe much to their insistence on the all-importance of the initial stages of education. Since sound foundations can only be laid by the best and most experienced teachers, economy in salary is possibly more

disastrous at this stage than at any other. These teachers are more readily available now that the standard of the Entrance Examinations for Kindergarten and Lower School Teachers has been raised by the Board of the National Froebel Union, and I should like to think that this is but the first step, as I believe that nothing short of the standard of the Higher Local Examinations is a satisfactory academic qualification for our junior school teachers. In my opinion well-trained Froebelian teachers with Higher Local qualifications would be more suited to take 1st, 2nd, and 3rd Forms than mere Specialists with secondary training.

But it is not enough to have elaborated systems and to have trained teachers rightly—what is yet to seek is a national conscience that will realize the importance of laying these foundations for every pupil in the secondary school, that will recognize that each stage is essential and that without continuity of treatment it is impossible to secure the all-round development of the child.

I plead for this national recognition of the child's rights —rights that must be fully recognized by educational authorities, by parents, and by teachers. Educational authorities must face the fact that in the secondary schools of England the average length of school-life is so deplorably short, that education in the sense of uninterrupted growth is possible only for the favoured few. Until a solution can be found for the problem raised by this irregular and intermittent education, we shall fall behind other nations both in intelligence and intellectual power.

But whatever impetus may be given by the State or governing bodies, whatever skill the teacher may bring to her task, parents must realize that the loss to the child through deferred entry can never be overtaken, since it

must be remembered that the child is acquiring either right habits or wrong.

It is yet to be realized how much time is wasted in undoing wrong beginnings. Until a sounder public opinion prevails, difficulties must increase in the organization of the earliest stages and lead to the stunting of natural development which should prevail. Until we have this more generous recognition of the needs of the early stages, we must still deplore the fact that, from financial considerations, young children of different ages are frequently taught, in a school day of equal length for all ages, at one and the same time by one teacher, with no more reliable help than an inexperienced and partly trained student.

In accordance with the plans pursued by the writers of Reports of Head Mistresses on the Curricula of Girls' Secondary Schools, information was asked, and returns have been received from:—

1. Kindergarten, transition, and preparatory classes unconnected with secondary schools.

2. Kindergarten, transition, and preparatory classes attached to secondary schools.

The lower school naturally falls into three sections:—

1. Kindergarten. Lower division (four to five). Upper division (five to six).

2. Transition (six to seven).

3. First and second forms (seven to eleven).

The junior school may include sub-divisions of the first and second forms, but for the purposes of this chapter it will exclude the third forms.

It is the aim of this chapter; (1) to analyse the principles, aims, and methods governing the curricula in these representative junior schools; (2) to show how far this analysis seems satisfactory to meet the developing needs

of junior school pupils; (3) to indicate what would be ideal for the all-round development of the child.

Kindergarten.—It seems almost superfluous to set forth principles underlying kindergarten work, since I fully recognize the growth in appreciation and sympathetic understanding of the parents in rarely desiring formal lessons for children under six. This change of view is due to the more enlightened understanding of the fact that the child is a developing organism and that the conditions of development are freedom and suitable surroundings. The true kindergarten takes cognizance of the physiological and psychological significance of the many instinctive activities natural to childhood and of the varied impulses of each individual child.

The aim then of the kindergarten is to train children in co-operation and mutually helpful living, by giving opportunities for social intercourse and by directing instinctive activity so that valuable and active habits may be formed. Many of the individual failures in the upper school are due to the lack of recognition of these principles in the preparatory work of the junior school and to bad methods of mechanical drill, which, though they may obtain temporary results, deaden interest and fail to develop power.

While we advocate no formal lessons in reading and number at this stage, time is set free for the development of the children's power of observation and comparison in an informal way, and for the expression of their thoughts and fancies in language and play.

SYNOPSIS OF SCHEMES.

KINDERGARTEN CURRICULUM (four to six years)

We find that many kindergartens base their work on stories which are chosen for ethical and literary value,

while some take nature study as their central subject and connect all others with it. The work falls under the following headings:—

Stories—Simple Prose.—Bible stories—Simple stories of home life—Selected fairy stories and fables.

Language Training.—Informal talks in connexion with home and school life—Stories, offering careful training in articulation and enunciation—Sounds. (Breathing exercises are sometimes taken, although some physiologists would postpone them to a later stage and some take serious objection to all artificial breathing exercises.) Narrative and nature poems, nursery rhymes, printing. Some schools introduce writing in sand.

Nature Work.—Living contact with nature—Care of plants and animals. Gardening — Life interests of the season (aquarium). At this stage the chief aims are to quicken interest and spontaneity—Knowledge is desired only in so far as it deepens and widens interest and sympathy.

Number.—Arrangement and grouping of materials—Analysis of simple quantities and numbers—Counting.

This is included in the schemes of many kindergartens—Others omit number work and would introduce it only in so far as it comes into daily life (counting and measuring).

Handwork.—Building with bricks, modelling in sand and clay, paperfolding and cutting, weaving, bead-threading, drawing and brush-drawing, pattern-making with varied material, constructive work with varied material.

Games, Play, and Domestic Activities.—Games in connexion with stories—Nature games, trade games, simple traditional games, ball ring games, finger plays, guessing games with sense training, marching and dancing.

Free Play.—To encourage liberty (without lawlessness), freedom, order, subordination, and co-operation. Sand tray, spades, care of dolls and dolls' house.

Singing.—Simple hymns—Songs in connexion with stories and games; songs of greeting and parting.

Band.—Some schools recommend a band with piano accompaniment, chiefly to develop a sense of time and rhythm.

TRANSITION (six to seven years).

The principles upon which the work of the transition class is based are the same as those which govern the

kindergarten. The children's life and work develop from an unconscious to a more conscious stage, and special subject matter, with special method, becomes more and more defined. The children are ready for more systematic work—formal lessons in reading, spelling, writing, and number may be given. At the same time, a further development must be secured in powers of expression in handwork, in free and organized play, including physical exercises.

SYNOPSIS OF SCHEMES.

TRANSITION.

Stories.—Fairy stories, fables, nature myths, Greek and Norse myths, Jungle Book I, Red Cross Knight, The Story of The Brownies, Water Babies, Travel Stories, Seven little Sisters, Robinson Crusoe.

Language Training.—Oral composition, telling stories.

Reading.—Careful training in speech—Recitation of poetry. Formal exercises in sounding—Word-building—Spelling—Sentence-building.

Writing.—Letters, words, and sentences on blackboards and paper. Transcription—Dictation—Free composition.

Nature Work.—In addition to the kindergarten course, attention will be given to :—

Animal Life.—Class aquarium—Garden workers, worms, birds, and bees, etc. Familiar animals.

Plant Life.—Bulbs, acorns, beans, flowers, trees, harvest, seed dispersal, etc.

Number.—Analysis of numbers and quantities. Counting in ones, twos, and fives—Number pictures—Written figures. Measurements (yard, foot, inch, lb., oz., gallon, quart, pint). Sorting and grouping (colour, form, size, length, direction, weight). Money—Playing at shop, telling the time, geometrical figures (squares, rectangles, etc.), preparation for multiplication table, simple mental problems.

Handwork.—Drawing, painting, clay modelling, simple pottery. Domestic activities in connexion with a doll's house. Weaving with bast, string, wool, etc. Paper cutting and modelling, use of ruler. Knitting (large wooden needles).

Games—Play—Physical Exercises.—Ball games, skipping, free and organized play out-of-doors and indoors, musical drill, marching, running, dancing.

Singing.—Simple hymns, breathing exercises, voice training exercises, exercises in rhythm, pitch, and time. Band (as in the kindergarten), unison songs, national and folk songs in unison, elements of sight-singing.

JUNIOR SCHOOL (seven to eleven years). (First and Second Forms.)

Within these four years, children become more conscious of their own power and of the need for effort. A pleasurable sense of struggle adds zest to their work. They are full of curiosity and show desire for information—their activity gives evidence of increasing purpose and ingenuity. This desire is satisfied by fuller treatment of the humanistic studies, of number (with due attention to practical work), of expression by means of handwork of a more advanced type, and by dramatic games, free play, and physical exercises.

From the returns it seems generally agreed that it is wiser to postpone the introduction of a second language (French) to the age of eight.

SYNOPSIS OF SCHEME.

Religious Instruction. Age seven to nine years.—In the majority of schools—Two lessons weekly—There are some in which five short lessons are given.

Nine to eleven years.—In some schools Bible stories—Old and New Testament—Jewish History.

English.—The number of lessons varies from five to nine per week. Formal teaching in grammar is rarely given before the age of ten. The English is as a rule correlated with the history—Greek, Roman and Celtic stories, Northern sagas, Arthurian legends, selections from Longfellow (Hiawatha, etc.), Midsummer Night's Dream, Macaulay's Lays. (Selected poems committed to memory.) *Oral* composition by reproduction of stories, by description and narrative—Writing of simple letters and original stories in later stages.

Reading.—Prose and poetry (special attention being paid to intelligent expression), spelling, dictation, and transcription.

Nature Study.—Plant and animal life connected with the seasons of the year—Familiar trees—Gardening—Pond and insect life—birds and pets—Bees—Silkworms and caterpillars. Weather records—Nature diaries—Simple earth and sky study—Some elementary astronomy, nature rambles.

Geography.—The best schemes include world stories of vivid personal interest, helped by small globes used individually. Plans of schoolroom, playground, home district, points of the compass. Models and relief maps in plasticine, school journeys to places in connexion with local history—British Isles, use of atlas, Europe, America. The World and the British Empire. (Two lessons weekly for the most part.)

History.—Almost invariably the history scheme is based upon stories taken in the following order: Greek, Roman, Celtic, Norse, and English History.

At the age of ten outlines of English History are taken, from Julius Cæsar to Elizabeth centring round great men and events. At this stage, a few schools introduce universal history based on the world series, such as "On the Shores of the Great Sea". Due regard appears to be paid to local history, visits being made to places of historical interest.

Mathematics.—Construction and learning of multiplication table. Great similarity of practice—Much practical and mental work—First four fundamental operations, simple and compound—Measurements—Metric system.

In half the schools weights and measures are postponed till the age of nine when decimals are introduced (generally preceding vulgar fractions). Practical work including the use of the ruler, set square, and compasses. Geometric figures.

Handwork. Seven to nine years.—Drawing and painting in connexion with life interests. Clay modelling—Weaving in rafia—Knitting—Paper modelling and woodwork.

Nine to eleven years.—Drawing, brush-drawing, clay modelling, cane basketry, paper or cardboard modelling, woodwor needlework.

French.—Although in a few cases French is begun in the kindergarten, and sometimes between seven and eight years, more than half the schools defer the study of the second language till eight, a few till nine, while some postpone it till ten. The oral method seems to be generally used at first and

French is taught by means of picture talks, songs and games, nursery rhymes. Only a few state that definite time is given to vocabulary and "sound" drill with phonetics. Three schools state that French teaching includes the use of the phonetic script, while easy accidence, reading, and dictation seem to be generally taught at nine and ten years of age. Written work is introduced at ten.

Physical Exercise. Seven to nine years.—Musical drill, dancing, skipping, marching, running, jumping, Swedish games and drill, cricket, dramatic games, free play. Old English games, swimming.

Nine to eleven years.—Marching, Swedish drill, ball games, skipping, rounders, cricket, team races, games in playing field, basket ball, Morris dances, dancing.

Singing.—Psalms and hymns—Unison songs—Simple rounds—Voice and ear training—Time and tune exercises—Modulator—Blackboard.

CONCLUSION.

The curriculum here set forth, I would remind my readers, is a compilation of essential and interesting items found in the several schedules, and does not necessarily represent the scheme of any one single school. It only remains to dwell on a few points under the following headings.

Stories and Language Training.—It is satisfactory to find that, generally speaking, more time is given to the practice of the mother tongue than to any other subject. It appears to be realized that in these early years imagination should be fostered by the reading and recitation of good poetry and prose.

The best literary models suitable for this age are now available through the publication of cheap editions. The imagination is also fostered by composition, oral and written, thus giving the child scope for free expression of his own thoughts, and for criticism of class work. In this way the vocabulary is enlarged and the correct use

of words acquired. The *formal* treatment of grammar should only begin in the last stage of the lower school, though doubtless much informal teaching can, at an earlier age, be incidentally given in the composition lesson.

Holy Scripture.—The schedules set forth with due precision the order in which Bible stories of Old and New Testament are taught from seven to nine years of age, though there are a few cases in which no teaching is given on the New Testament. In the majority of schools, Jewish History is systematically taught from nine to eleven.

In very few schemes is there mention made of the memorizing of verses, though probably this is a common practice. In these early stages when children learn by heart so readily, it should be a daily exercise to commit to memory hymns, psalms, parables, etc.

Nature Study.—In this connexion, I should like to advocate the entrusting of the Nature Study and Bible lesson to the same teacher, who, in the full realization of her opportunities, can thus bring home to the mind of the child the two-fold Divine revelations, "The heavens declare the glory of God and the firmament sheweth His handiwork." From nature study we pass naturally to the consideration of geography. We expect to find this correlated in the lower school with nature study as much as we expect it to be connected with history in the upper school.

Geography.—The schemes give evidence that modern methods are being adopted. In many cases, however, attention might well be directed to the advisability of (1) careful selection of the subject matter suitable for this stage; (2) its arrangement in a more definite sequence. Subjects having vivid human interest and direct bearing on the child's own life, travels, adventures, inventions,

people, animals, the chief articles of commerce, etc., may all be prominent in lower school geography lessons. During these years we should be stimulating wonder and interest and gathering a mass of empirical information ready for future reference and synthesis.

French.—The schemes show that modern methods prevail, though few schools postpone the study of the second language until the age of ten. If this time of beginning were adopted, an intensive method of study would be necessary—a daily lesson including phonetic drill, reading and conversation from a phonetic reader, songs and recitation from a phonetic script, vocabulary and verb drill. It must be admitted, however, that some schools object to phonetic readers and script. This should be followed in the third forms by a daily lesson. Here the transition should be made from the phonetic to the ordinary script. A good reader should supply the material for reading, conversation, and learning by heart, and these should form the basis of all elementary grammatical instruction and of daily drill in verbs and vocabulary.

History.—In all the schemes, history teaching in the lower school is mainly biographical—that is to say, lessons are grouped round the leading personalities of history.

The stories begin usually with those from ancient history, because it is felt that the more primitive surroundings of ancient times are better suited to the child mind than more complex modern ones. Moreover some sense of chronological sequence can be given by the order in which the stories are told.

The concentric method of teaching history, however, is followed in a few schools on the principle that it is better to proceed from the known to the unknown. But without making use of this method, it is possible to call frequent attention to present day conditions and to make

comparisons, whatever the period studied. This will help to give a vivid and picturesque "atmosphere" to the scenes described. Graphic illustrations and visits to local places of interest can also help much in this respect.

In the upper forms of the lower school, it is possible to give some elementary teaching on the cause and effect of historical events. Here also leading dates of the period studied should be learnt, as they can be committed to memory more easily at this stage than later. In these early years, the teacher has a great opportunity of stimulating interest in and enthusiasm for the great personalities of history, thus preparing for a more scientific study of history in the future.

Physical Drill.—The schemes show greater variety of treatment than would have been found ten or fifteen years ago. The rigid idea of Swedish drill held in former years has broadened into a conception which includes exercises and dances which by their variety and rhythm give pleasure to the child. The corrective and strength-giving power of drill is not forgotten, but grace and agility are now considered of equal importance. Medical inspection should, from the age of seven, precede all physical exercises with or without apparatus.

Singing.—The schemes show the growing recognition of the possibility of developing in young children the power of ***reading and singing at sight*** any tune in any key, and of writing down any tune played. This facility can best be obtained by a daily lesson.

Our aim should be to give children an understanding of music as a universal language, thus adding to the joys of life, giving a measure of power to enjoy and diffuse the culture of an ennobling art.

The teacher of class-singing should have had definite training in the handling of young children and should

know what is being done in the music lessons, so that singing may be correlated with the rest of the musical training.

Handwork and Drawing.—The returns are unsatisfactory because of their inadequacy. This may be due to misapprehension of the scope of the subject in the inquiry.

Drawing, brushwork, and needlework have a recognized place, but weaving in rafia and cane, modelling in clay, paper, and cardboard, woodwork, appear but seldom, although there are a few noteworthy exceptions where due attention is paid to the subject.

It is not suggested that all these branches should be taken in one year. It is admitted that needlework should be deferred until the age of eight, and that no fine work should be introduced. As a recent writer says, "The small child should deal with big things". Clay modelling at one stage may be followed by paper or cardboard modelling, and so forth.

One strong argument at least in favour of practical work for children, compared with that which is purely intellectual, lies in the fact that the *results* of such work, as well as its *use*, are perfectly plain to the child.

If a child learns through handwork how to conceive and patiently carry out an aim, with due regard to the importance of every step, the power thus gained may be a very important factor in other more abstract branches of its education. Time devoted to definite manual work materially contributes to all round development, for this training renders good service in the subsequent study of mathematics, needlework, drawing, science. Froebel in 1826 urges that one or two hours daily be devoted to handwork. The work of modern experts shows that for moral, physical, and intellectual reasons, children turn

with renewed vigour from manual to more intellectual work.

In view of the general practice of teaching Drawing throughout the school, set forth by the schemes, it seems superfluous to remark here that every child can be taught to express itself to some extent through drawing. Ideally there should be no formal drawing lessons in the lower school, but the child should express itself through drawing in connexion with very many of the other subjects of the school course. This ideal cannot be realized at present, since so few teachers of general subjects can draw; and until every mistress can teach drawing, as at present she is expected to teach reading and writing, set drawing lessons must be taken by specialists. These teachers should understand the principles underlying education and should work towards the aim suggested above by correlating the drawing lesson with other subjects taught.

At the age of nine, the child may be safely introduced to a more definite instruction in form and colour. Here the specialist is not so much out of place, but the drawing lessons should still be linked with other subjects. Due attention should be paid to the grammar of form and the "intentional" training of the colour sense.

It may be fairly stated that the subject selected and the methods used show a realization of the possibilities in the lower school, one of the chief aims being to form right habits of dexterity and thought. We see everywhere the recognition of the fact that the child learns by doing, that in secondary schools education is not always identified with book-learning, but that the aim of the educator centres in the two great powers of speech and motor activity. "Here then in vocal and manual activities do we find a fruitful field for the formation of mental growth."

Of these two, manual work is even more important, since "The works of the hand are abiding. They crystallize the thoughts of the race and mark the progress of humanity."

But there is no evidence of the desire to take the child out of wonderland. "The commonest sights and sounds have for him the glory and the freshness of a dream, and these find expression in speech, in drawing, in composition, and in imitative games fostered and encouraged in all these ways".

In conclusion, the teacher must herself never cease to be a learner; she must keep the heart young, the dreams vivid, and the vision clear. She will understand the children's needs by retaining herself the childlike qualities of freshness, ingenuousness, fun, sympathy, enthusiasm, and, I would add, that humour which will carry her and her pupils happily through the arid tracts that will sometimes mark her course. And she will realize the force of Coleridge's words :—

> O'er wayward childhood wouldst thou hold firm rule,
> And sun thee in the light of happy faces?
> Love, hope and patience, these must be thy graces,
> And in thine own heart they must first keep school.

I acknowledge with much gratitude the help given me, on kindergarten work particularly by Miss E. Chevallier, Miss L. James, Miss Murray, Miss Walmsley, Miss Yelland; and on lower school work by the following members of my own staff Madame Bagnall, Miss Dingwall, Miss Fox, Miss Hockley, the Misses James, and Miss Welch.

E. WOODHOUSE.

CHAPTER III.

DIVINITY PAPER I.

IN approaching the subject of religious education, we find ourselves face to face with problems more far-reaching than those which meet the teachers of other subjects; for, while demanding the use of all the energies, methods, and experience employed in the development of the physical and intellectual powers, it makes its final appeal to a higher faculty, in that its primary object is to bring the child into constant and conscious touch with the unseen world, which can be apprehended by faith alone.

That child nature lends itself easily to spiritual impressions has been observed by the deepest thinkers—"Heaven lies about us in our infancy";—and that the spiritual faculty can be cultivated and strengthened on the one hand; and on the other, may, if neglected, be wasted, or even wholly lost, is the logical corollary of this fact.

We have then to inquire what is being done to-day, to educate, (in the strictest sense of the term), the highest spiritual life of our children?

In a large majority of schools, the basis of the teaching is supplied by that wonderful library of inspired literature which it has pleased God to use as the means of His gradual revelation of Himself to man, and of His will for man; and which we fitly call the Bible—*the* Book;—

appealing as it does, to every part of his complex nature, by all the varied forms of literary expression. Here we have a wide area of common ground for every type of Christian school. Beyond this, those of us who have Church schools, add the teaching of the Church.

I propose to consider first, the wider subject of Bible teaching, and secondly the more restricted field of Church teaching. But there are certain important preliminary points common to both. First, we must be perfectly clear as to the object we have in view; I take the chief object to be, the development and increase of spiritual life, by growth in the knowledge of God. For the promotion of this end, the most important factor is the personality of the teacher. Thirty years ago, it was taken for granted, in many schools, that every and any mistress could teach Divinity: those days are past; and it is recognized that special preparation and study are required for this, as for other subjects. But there seem to be still two views among Head Mistresses; some, feeling intensely that *this* subject, above all others, creates a close bond between teacher and taught, would put it into the hands of every Form mistress; while others choose carefully persons specially fitted to deal wisely and reverently with what touches the deepest springs of thought and life. Surely in this, more than in other cases, it is needful that the teacher should herself be filled with enthusiasm for that which she seeks to impart; and that she should not teach it unless she seriously desires to do so, and has done her utmost to qualify herself for this special ministry. Again, while deprecating the separation of studies into two distinct categories, as either sacred or secular (because all truth is Divine and to be reverently approached)—and while realizing that the school prayers are the dedication to God of all that is

taught or learnt, it still seems to me desirable that, before beginning the Bible lesson, the class should stand for a few moments, while invoking the aid of the Divine Spirit on teacher and taught, as together they are about to listen for His voice in His written word; it tends to induce, in both, the reverent and serious attitude of mind which befits those who tread on holy ground.

Bible Teaching.—With regard to the order and manner of presenting Scripture teaching, I find the division into four stages, adopted in dealing with other school subjects, impossible in this, and venture to begin at an earlier age, and to cover therefore more ground, because many of us have children of five years old, and those who have not, must presuppose some foundation of knowledge before the age of twelve at which these schemes begin. I would therefore preferably divide into the following four stages: I, under eight; II, eight to eleven; III, twelve to fifteen; IV, over fifteen. For I and II, I have no guidance from the schedules returned to the Curricula Committee; but from other sources I learn that in Stage I, the simple Bible stories are told; nor can I imagine any other means of instruction. Here emphatically, *all* depends upon the teacher to make the stories vivid with picturesque illustration; and with continual reference to God, and to the simple standard of right and wrong set forth in the early books of the Bible, by which, in the childhood of the world, He laid down the laws of righteousness. It matters little in what order the tales are told: chronology does not exist for the child at this age; and I find that while some experienced teachers begin with the life of our Lord, others tell first of the Creation;—probably both should be told concurrently, in different lessons, at this stage. What *does* matter is that through all, should run the golden thread of the love of God our Father;

and that in these years, while the memory is the most highly-developed faculty, simple hymns of love and praise should be taught, and constantly sung or said.

In Stage II, the child should read the sacred story in the Bible itself, and can quite well be taught to trace God's election of an individual, a family, a race, in which His eternal purpose of redemption, culminating in the Birth, Life, Death, and Resurrection of the promised Saviour, was worked out. During these years, selected passages of Holy Scripture should be learnt with absolute accuracy, and should be simply explained, although the fulness of their meaning will only grow into the words in later life.

Stage III covers the ground of I, II, and III in the schedules; i.e. it carries us on to Stage IV, viz. to the point at which preparation for a "leaving certificate" of some kind usually begins; and here there is considerable uniformity in most of the schemes sent in.—The Old Testament history is carried on, with illustration from monuments, the writings of contemporary prophets, and the light thrown on the subject by recent discovery, and by cognate history; and concurrently with this, the life of our Lord is studied in detail from the Gospels themselves, and also the history of the Apostles, with the Epistles belonging to each part of their lives. In some of the best schools, the history of the times between the Testaments is taken for a term.

In only one school the Gospel of St. John is mentioned; but I imagine that where the "Life of our Lord" is carried through two years, this probably includes such parts of it as a child's mind can follow: and that any deeper study of the more difficult passages is postponed to the age of sixteen and over, when, in many cases, the subjects are those of the Joint Board, or of the Oxford

and Cambridge Local Examinations. These afford a considerably varied syllabus, with always one or more Epistles, which give much scope for advanced study; but schools that are free to select simply what they find suitable to their own elder girls, have a distinct advantage, and evidently use this liberty for study of some special book or period on what one may call sub-university lines, with the help of the highest authorities in each case.

While thinking of Bible teaching, it is impossible to shirk the question of the difficulties which arise, from what is vaguely called the "Higher Criticism". I am glad to believe that these are not so serious, at least for the school teacher, as they may appear. With little children, they surely need not arise at all; to them the "sweet stories of old" can be told in their simplicity; and the plain lessons of obedience and truthfulness, of trust and prayerfulness, and dutifulness; and the old warnings against greed and envy, falsehood and selfishness can be deduced from them. As the girls' minds expand, and questionings arise suggested by their other studies, or by what they may hear elsewhere, a reverent teacher can easily show them that the Bible is simply the progressive revelation God willed to make of Himself to the human race according to their capacity; that holy men of old were inspired, by His Spirit, while using their natural faculties, and the existing histories which were handed down by oral tradition, or recorded in writing, to correlate these, and to chronicle such events, and in such order, as should convey the *spiritual* lessons which it was His purpose thus to convey to the world. They can understand that man was intended to use his own mental powers for the gradual acquisition of knowledge; and that it would have been absurd to write in the terms of modern science, centuries before the discovery of its simplest facts; even

as to-day we talk of the "rising and setting" of the heavenly bodies, etc.! Therefore we do not expect to learn history or geography, or science, *as such*, from the Holy Scriptures; although marvellously they never *contradict* truth even in these.

To lead our children to approach the written word of God in a humble and teachable spirit—not cavilling, nor thinking it clever to discover discrepancies, but rather believing that, with increasing light, and reverent study, more of the "oneness" of all truth will emerge, and that it is ignorance which causes most of our difficulties;—*this* will make our Old Testament lessons fruitful, and arm the children to meet shallow and one-sided criticism, without giving up the joy of faith.

When we approach the New Testament, the difficulties as to historical accuracy practically disappear; for no records of *facts* are more perfectly attested, by trustworthy witnesses, than those there recorded; on the other hand, the *miraculous* element is far more largely developed; and its acceptance is here a primary condition of belief; but it is present also in the Old Testament; and the principle on which the credibility of miracles rests, is the same in both, and is such that even a child can grasp it. If we believe in an All-wise and All-powerful Creator Who not only made the universe, but implanted in it what we call the "Laws of Nature," the powers of reproduction and development, the instinct of self-preservation, the forces which control the motions of the heavenly bodies, and produce the phenomena of earth, can we refuse to believe that He can also, when He wills, act independently of those laws, which are merely "observed uniformities" in His manner of working? Can we limit infinity within the confines of the observation of ignorance? Nay, would not the "ignorance" of our forebears,

quite as reasonably, have declared the conquests of our science to-day impossible and incredible?

Naturally, boarding-schools, such as Milton Mount College, and the Friends' Schools, are able to cover more ground than day schools; and to add, for elder girls, the study of special books outside the Bible itself; but for those which are limited to five days, and, as a rule, to not more than two lessons a week, it hardly seems possible to attempt more than a general knowledge of the Old Testament history, and of the life and teaching of our Lord and of His Apostles.

Church Teaching.—In Church schools, in addition to the study of Holy Scripture, there are definite courses of instruction on the faith, the practice, and the history of the Church. On this subject the schedules tell extremely little, as to what is being done. Doubtless, had more schools been represented, there would be many more "returns"; but probably they would resemble each other very closely; for the Church catechism and the creeds are, of course, the basis of such teaching.

In Stage II, the catechism is quite perfectly learned, and carefully explained; at first very simply, afterwards more fully, to the end of the answer on the Lord's Prayer; and this is continued and completed in Stage III, developing into definite preparation for confirmation, with the full sacramental teaching; and, together with this, there is such study of the Prayer Book as enables the child to enter intelligently into the Church services, knowing the history of each part of them, and so realizing, not only the continuity of the Church's worship, through the ages, but also her own personal position, her privileges and her responsibilities, as a member of the Church.

In Stage IV the history of the founding of the Church,

as related in the Acts of the Apostles, and illustrated by the Epistles, will naturally be carried on, through the sub-apostolic times, and the centuries of persecution without, and of heresies within, met by the early Fathers and other apologists, to the Council of Nicæa, and the partial victory of the Church under Constantine. Thence we trace its gradual extension, and with this, the growth of the papal power which reached its climax under Gregory VII, A.D. 1073 to 1085.

From this time the struggles between the Papacy and the Empire belong rather to European than to distinctively Church history; and, with the limited time we have in school, we are bound to confine our study to what concerns ourselves, and to trace the story of our own branch of the Church, from the dim and scanty traditions of the evangelization of Britain, and the clear records of the conversion of England, through her chequered course, down to our own day, when the history of the Anglican Church is still unfolding under our eyes in her foreign missions, which are planting Christianity in every country in the world.

Inevitably this can be but the merest sketch of a subject vast in extent, and thrilling in interest, but it will fulfil its main object, if, avoiding all contentious matter, we teach our children to know *why* they are *what* they are; and inspire them with enthusiasm to do *their* part in carrying out the marching orders of our "Captain of Salvation," and in hastening the consummation when "the kingdoms of this world shall become the kingdoms of our Lord and of His Christ".

I have been asked to append a list of books useful for teachers and students, and have tried to do so; but it necessarily omits infinitely more than it contains; as it touches but the fringe of an almost inexhaustible litera-

ture. May I convey my thanks to all those who have kindly answered inquiries, or given me their views in different departments of my subject? I cannot particularize as to the details of my indebtedness, for I have rather assimilated and reproduced, than quoted from any, and am alone responsible for the whole of this paper; but I am conscious of distinct help from Mrs. Bryant and Miss Woodall.

ALICE OTTLEY.

LIST OF BOOKS.

OLD TESTAMENT.

Driver. Introduction to the Literature of the Old Testament. 12s.
Edersheim. The Bible History, 7 vols. R.T.S. Each complete in itself. 2s. 6d. each.
—— The Temple and its Services. R.T.S. 5s.
Paterson-Smyth. The Old Documents and the new Bible. Bagster. 1s.
—— How we got our Bible. Sampson Low, Marston. 1s.
Foakes Jackson. The Biblical History of the Hebrews.
Ottley. History of the Hebrews. Cambridge University Press.
Hillard. Books of the Bible. Rivington. Each book separately. 1s. 6d.
Maclear. Class-Book of Old Testament History. Macmillan. 3s. 6d.
Sayce. Fresh Light from the Ancient Monuments. R.T.S. 2s. 6d.
Westcott. The Bible in the Church.
Adam Smith. Isaiah, 2 vols. Hodder & Stoughton. 7s. 6d. each.
Aglen. Lessons in Old Testament History.
Ottley. The Hebrew Prophets. Oxford Church Textbooks. 1s.
Kirkpatrick. The Divine Library of the Old Testament. Macmillan. 3s.
Neklin. Old Testament History, 3 vols. Black. 3s. each.
Paterson-Smyth. The Bible for the Young. Sampson Low, Marston. Each book 1s.

New Testament.

Westcott. The Canon of the New Testament. Macmillan.
Hillard. Books of the Bible. Rivington. Each book separately. 1s. 6d.
Cambridge Bible for Schools. Pitt Press. Each book 2s. 6d. or 3s. 6d.
Trench. The Parables. Kegan Paul. 7s. 6d.
—— The Miracles. Kegan Paul. 7s. 6d.
Latham. Pastor Pastorum. Deighton, Bell & Co. 4s. 6d.
Edersheim. Life and Times of the Messiah. 6s. 6d.
Gore. Epistle to the Ephesians. Murray. 3s. 6d.
—— Epistle to the Romans. Murray. 3s. 6d.
Lightfoot. Epistle to the Galatians. Macmillan. 12s.
—— Epistle to the Philippians. Macmillan. 12s.
—— Epistle to the Colossians and Philemon. Macmillan. 12s.
Goudge. First Epistle to the Corinthians. Methuen.
Dr. Swete. St. Mark. Macmillan. 15s.
—— The Apocalypse of St. John. Macmillan. 15s.
Dr. Milligan. The Book of Revelation. Hodder & Stoughton.
Ramsay. Paul, Roman Citizen and Traveller. Hodder & Stoughton. 10s. 6d.
Rackham. The Acts of the Apostles. Methuen. 7s. 10½d.
Maclear. A Class-Book of New Testament History. Macmillan. 3s. 6d.
Norris. A Key to the Acts of the Apostles.
Paterson-Smyth. The Bible for the Young. Sampson Low, Marston. Each book 1s.
Hillard. The Books of the Bible. Rivington. Each book 1s.

Prayer Book.

Evan Daniel. The Prayer Book. Wells Gardner. 6s.
Barry. Teacher's Prayer Book. Eyre & Spottiswoode. 2s.
Blunt. The Annotated Book of Common Prayer. Longmans. 10s. 6d.
Luckock. Studies in the History of the Prayer Book. Longmans. 6s.
Stephens. Helps to the Study of the Book of Common Prayer. Clarendon Press.
Blunt. A Key to the Book of Common Prayer. Rivington. 2s. 6d.

Procter & Frere. Introduction to the Book of Common Prayer. Macmillan. 3s. 6d.
Rev. Canon Newbolt and Rev. Darwell Stone (edited by). The Oxford Library of Practical Theology. Longmans. 5s. a volume: 24 volumes out or in preparation (an invaluable Series).

Doctrine.

Mason. The Faith of the Gospel. 7s. 6d.
Dr. Moberly. Personality and Atonement. Murray. 14s.
Dr. Dale. The Atonement.
Dr. Milligan. The Resurrection of Our Lord. Macmillan. 7s. 6d.
Westcott. The Historic Faith. Macmillan. 6s.
Sadler. Church Doctrine. Bible Truth. Bell & Daldy. 3s. 6d.
Liddon. Some Elements of Religion. Longmans. 2s. 6d.
Dr. Swete. The Apostles' Creed. Cambridge Press. 3s.
Sadler. Church Teacher's Manual. Geo. Bell & Son. 2s. 6d.
Gore. The Creed of a Christian. Wells Gardner. 1s.
Miss Wordsworth. Illustrations of the Creed. Longmans. 4s. 6d.
Oxford Library of Theology. Longmans. A series of 5s. books.
Gore. Prayer and the Lord's Prayer. Wells Gardner. 1s.
Oxford Church Textbooks. By various writers. Rivington. 1s. each.
Miss Wolseley Lewis. The Sevenfold Gifts. Murray. 2s. 6d.

Church History.

Cheetham. The History of the Christian Church during the first six centuries. Macmillan. 10s. 6d.
Wakeman. History of the Church of England. Rivington. 7s. 6d.
Bright. Early English Church History. Clarendon Press.
Miss Yonge. The Chosen People. Innes & Co. 1s.
Miss Forde. A Goodly Heritage. Skeffington. 2s. 6d.
Maude. The History of the Book of Common Prayer. Rivington. 1s.
Pullan. The History of the Book of Common Prayer. Longmans. 5s.

Trench. Lectures on Mediaeval Church History. Macmillan.
Mrs. Mercier. Our Mother Church. Longmans. 2s. 6d.
Simcox. Early Church History. Rivington.
Maclear. Apostles of Mediaeval Europe. Macmillan. 4s. 6d.
Lightfoot. Leaders of the Northern Church. Macmillan. 6s.

CHAPTER IV.

DIVINITY PAPER II.

I HESITATE to add any words of mine to the admirable counsels given by Miss Ottley in the preceding pages—counsels worthy to be prized alike by all teachers of Scripture whether their schools be classed as denominational or undenominational. Beneath all variety of opinion as to details of doctrine and ecclesiastical discipline, teachers as such are no doubt agreed about the nature of the means available and necessary for the development of the spiritual nature and religious intelligence of the child: (1) the ordering of school life and home life in accordance with Christian—that is to say humane—ideals of conduct and sentiment; (2) the regular practice of religious worship in which the mind and heart are really engaged; and (3) the building up of an intelligent interest in the problem of the relation between God and his universe—more especially the relation between God and man—which forms the subject-matter of ecclesiastical dogma, of theological speculation, and of that process in history, the revelation of God to man through man, which is recorded in the Bible.

It is with the third of these means that we are here concerned—the development of the religious ideas of the child. Now the teacher knows, as a matter of experience, and common sense, that dogmatic teaching, as for instance in science, is damping to the intelligence and, by the

substitution of formulæ, arrests thought: the mind does not find unless it is itself engaged in the search. To learn is in fact to bring one's mind into the true way of dealing all round with the subject-matter concerned. This, if it be true for science, is true *a fortiori* for the more complex and elusive conceptions which lie at the heart of religion. No human intellect is satisfied by dogma. On the other hand, few—perhaps none in early youth—would be found able to advance by the logical methods of the philosophic theologian. These are to religion what the abstract theory of scientific method is to science; but the child is not able to use such weapons, and we cannot postpone to adult age his education in religious ideas.

So we turn from reliance on dogma and dialectic, to learn religion in the history of the human spirit. We turn to the records of the history of our religion and find in them our means—sometimes direct, more often indirect—for the development of the religious intelligence. This is the true significance of the Bible in the school. It is the teacher's task to use it so that it shall tell to the child its own story, of search for truth and moral progress in the race, and tell it with ample appeal to that humane sentiment and warm imagination on which we may count so safely in the average young child. It is the teacher's prime duty to handle her subject with the utmost sincerity, and with knowledge of modern archæological research and literary criticism at the back of her mind; so that the child's idea of the Book may, even in its childish form, reflect the complexity and progressive character of its contents.

Here we have, bound together by unity of the central theme, the most wonderful collection of ancient documents, carefully selected from a mass of others by com-

petent authorities at two separate periods of time, the first volume containing the cream of all the sacred writings of the Jews, the second still more critically sifted by the spiritual discernment of the early Christian Fathers. These are the original documents, in which every man may study for himself the history of the development of the Christian religion, and in such historical study find a school for religious thought. This, as we can conceive it to-day, is a very different thing from the habits of disconnected Bible reading, with arbitrary interpretations, that prevailed when we were children, habits that have since died out in so many quarters—died out from sheer fatigue of the unintelligence and negation of curiosity which so frequently marked them. On all hands the old habit of mechanical Bible reading is dying out. Not only is there room for a new habit, but upon its formation depends the preservation of the old reverence. It is indeed difficult to overrate the significance of the new and growing zeal for Bible study in the modern sense which marks the present time. It implies a great revival of religious interest, and in such wise as to engage all the forces of intelligence. From the centres of intellectual life at the universities it is spreading outwards and through the schools: it will reach the masses of the people presently, and restore the Bible to its place in the national life.

The Bible in the school, understood in this sense, means that the child, under the influence of the human experience to which it gives him access, finds opportunity to build up for himself religious ideas, which he formulates —not too soon—but as he finds himself ready to do so. It is therefore essential that he should learn from the first to make a faithful, intelligent use of the book. A mind full of active inquiry and awake to moral perceptions

should throughout be brought into play. The blending of good and bad, of truth and error, of strength and weakness in the Old Testament heroes should be freely discerned and discussed. The mingling of lower and higher ideals in religious rites and social customs should not be overlooked:[1] it is indeed essential to the main interest of the Old Testament story as a progress that this mixture should be studied: it was for the purging out of the baser elements that all the great religious leaders from Moses to Nehemiah worked. It is therefore part of the young student's religious training that she should use to the full her moral discernment on the subject-matter of the narrative before her. The story of Jacob for instance is morally instructive just in proportion as the child criticizes it freely. With heroes of classical story young readers have as a matter of course a free hand to criticize as they will; the good educational effect is a familiar fact.

It is part also of her training as a Bible student that she should notice the existence of double and treble narratives giving different accounts of the same event; and the teacher will encourage her to press for a solution. Here is a so-called Bible difficulty which when faced turns out to be the clue to a very important literary discovery: the faithful young student begins to detect for herself the composite authorship of the ancient books. Sometime or other, in school or out of school, that clue can be followed up: it is the clue to the solution of Bible difficulties in general, so great is the flood of light shed on the history of religious development by the modern

[1] It is, for instance, of no small account to note how Hebrew worship developed to the purity realized in post-exilic times in the midst of an environment tainted by the practice of human sacrifice in its most hateful form.

discovery of the Bible in its process of being built up. As a subject of definite school study this could only be dealt with, and then briefly, in senior classes; but from the outset a sincere treatment of the text—even after needful expurgation — involves the rudimentary beginning of that intelligent literary criticism which is reinstating the Bible, a stronger force than ever, in our generation.

As regards courses of study two types may be here described (see Appendix A). In this, as in all other subjects of considerable extent, there is room for great variety in typical courses. The two types described below I have at first hand. They agree in the ideal at which they aim; i.e. the intelligent and reverent appreciation, first of all and central throughout, of the Christ-life and its eternal significance, (1) *to* man, as revealing the goodness of God, (2) *for* man, as the saving force by co-operation with which he is drawn into harmony with the Divine. Their difference (apart from details), is in the treatment of the Old Testament. In the one case, it follows in the main in the junior stage the story of the life of Christ, on the ground that natural interest begins in the Christ-life, and the earlier things are of higher interest when treated as precursors to it. Time is found, however, at some part of the course to treat the stories of Old Testament heroes. The Old Testament is taken in the middle school as a continuous history, and the corresponding period of ancient history—i.e. of Egypt, Assyria, and Babylon—at the same time. In the other case, there are two weekly lessons, and one is reserved for the Old Testament throughout the school. In this second case there is obviously more time given to the subject, and especially to the Old Testament. The course also at the top of the school is better rounded off.

In both these schools an attempt is made (1) to supple-

ment the class teaching; (2) to stimulate interest with a view to individual study and reflection; (3) to promote unity of ideal and suggest to all concerned a point of view by using the five to seven minutes available daily at morning prayers for systematic Bible reading in a series of definite courses. From time to time a brief explanation or other comment is combined with the reading. This has proved in both schools an interesting experiment and full of promise. There can be no doubt that these readings are appreciated by the girls, small and great. They do listen—listen better than they did previously to less systematic reading.

In saying this, I speak from personal experience, extending over a year and two terms, during which I read (1) the life of Christ in sequence, selecting each portion of narrative from the appropriate Gospel (two terms), and (2) the lives and letters of the Apostles, taking Acts in order and inserting selections from the Epistles at those places in the narrative to which the writing of the Epistles respectively belong, the later letters and Revelation following on at the end. We have now begun a third series from the Old Testament which I find much more difficult to make, partly because there is in any case much to omit, partly because it is difficult to choose between different schemes of treatment, and partly because there is so much material, whereas a course should be comprised in one year or not much more. In Appendix B I have set down a brief outline of the course as I now contemplate it, but experience and further reflection may greatly alter my scheme. And here let me say that every one who adopts this means of promoting Bible study would do well to make her scheme of reading for herself and with an immediate view to her own school. She will find it a most delightful and instructive holiday task; she will be able

to deal the more effectively with each of her readings because she knows why she herself has selected it as part of a whole which she has in mind. Also it is certainly true that the girls in one school do, for a variety of reasons, require something different from the girls in another. The intellectual capacity for sustained interest is different according as the tone is set by a majority of senior, middle, or junior girls. Different traditions, too, and different degrees of familiarity or unfamiliarity with Scripture obtains in different parts of the country and in different social groups. The suitability of the course selected must be in part decided by the Head Mistress's previous knowledge of her school, and partly by her experience of its "acceptability". A course of reading must be "acceptable": if one does not listen, one loses so much and learns also not to listen.

Nevertheless, it may be suggestive to see these two series as set out in the Appendix. The New Testament series I give in full: it has been tested. For the Old Testament I venture only to give the sketch of its plan as at present conceived.

In some schools special provision is made for the Jewish girls. In one school, with a small number of Jewesses in attendance, advantage is taken of the fact that one of the mistresses is of their faith: she takes them to prayers of their own and Bible reading during the time devoted to the regular morning prayers. Also, when the address given weekly by the Head Mistress to the school involves explicit reference to Christian history or doctrine, these girls have a reading or talk with their own mistress. Frequently, however, they join with the others in hearing the general address. This provision of religious facilities for the Jewish girls is of recent date: the effect is found to be very satisfactory: it deepens the girls' sense of at-

tachment to the school, and makes them feel more at one with their Christian companions than formerly.

In another school where the proportion of Jewesses is large, the same provision for separate prayers is made on four days out of the five. On the other one day the whole school meets for prayers, and the Head Mistress conducts a service in which all can join.

SOPHIE BRYANT.

CHAPTER V.

ENGLISH.

IN a consideration of the part that the study of English should take in a school curriculum, the classification of the subject under the two headings of language and literature naturally suggests itself, because it is idle to imagine that any adequate knowledge of the mother tongue can be gained unless due regard is paid to each, since without an appreciation of language and its capacities there can be no full and sympathetic appreciation of literature.

The serious and complete study of language from a philological point of view cannot be attempted to any great extent at school: time and opportunity do not admit of any but the slightest introduction to philology, nor is the knowledge possessed by the girl still of school age such as to derive much advantage from this subject. But simple instruction in the history of the formation of the language and of the grammatical constructions in common use provides exercises which should be placed within the reach of every child, not with the object of studying grammar for its own sake, but because grammar is a means to an end, a means whereby the pupil may use her own language with understanding and effect.

For the study of grammar to have its greatest value it must be treated inductively and not dogmatically: the pupil should, if possible, be taught to make from observation her own rules and definitions; where this is not

possible the rules and definitions given should be very few, they should be introduced as examples are met with, and should be couched in the simplest terms, which should be self-revealing and should not vary more than is necessary in the study of different languages. The inductive treatment of grammar demands some acquaintance with language beyond the spoken language, and so the systematic study of grammar should not be begun before the age of ten or eleven years, when the reading-book will have previously supplied material for directing the attention towards the formation of sentences, the functions of words, and the extension of vocabulary. The unit of grammatical instruction is the sentence, but not until some time after the child has realized from her own experience in reading and speaking that a sentence has two essential parts, one part expressing something spoken of and the other part expressing what is spoken of it, should she be introduced to the terms "subject" and "predicate". More complicated analysis involving the recognition of the different parts of the subject and predicate may be introduced gradually, thus preparing the way for the close examination of the separate words of a sentence which constitutes parsing [1]. The necessity of impressing upon the learner the distinction between words and what words indicate, for example, the distinction between *nouns* and *things*, between *verbs* and *actions*, must never be overlooked by the teacher of grammar.

The difficulty of giving expression to thought in clear, simple, direct, and forcible words is so great as to be with many people insurmountable, and so that this difficulty, which is largely due to want of practice in writing, may

[1] Cf. "The Principles and Practice of Teaching and Class Management," by Joseph Landon, p. 414. Published by Alfred Holden, 11 Paternoster Sq., E.C.

not present itself too formidably, it is necessary that children at school should be given ample opportunity for writing English prose.

Prose composition should be begun *orally* at the age of seven or eight years, and written composition should be introduced gradually. For young children prose composition should consist chiefly in the production of original fairy stories, in the completion of stories of which the beginning has been given, and in the reproduction of stories read or told, but in this last exercise care must be taken that a sufficient interval is allowed to elapse between the telling of the story and its reproduction for the child to have forgotten the actual wording of the story as first presented to her. To older children abstract subjects, if given at all, should be given very sparingly, but original writing should be encouraged as long as the work asked for is narrative or descriptive. Letter writing, particularly formal letter writing, such as business arrangements and the sending and answering of invitations, should claim some share of attention. Précis writing is a valuable exercise, because it encourages the effort to search for the essential and to discard the superfluous. Paraphrasing, that much criticized and diversely viewed exercise, which has been condemned as "an impious and unholy use of pen and ink," has this value, that it may detect the failure of a pupil to understand the passage she is insulting and mutilating; but as an exercise in prose composition it only has worth in so far as it is a free and not a close rendering of the given passage. Such exercises as those already mentioned should secure for the pupil considerable ease of expression and perhaps freedom from serious faults of style. A literary, graceful style cannot be imparted to every one, but there is no doubt that much can be done towards correcting a poor style: grammatical errors can

be reduced to a minimum, wordiness and rambling can be checked, strict attention to the point under discussion can be insisted upon, and the inclination to reject any but the right word can be induced. It is particularly necessary to point out to the pupil grave faults of style in an age when many people seem little alive to the responsibility involved in the use of language: it is possible that such care bestowed upon the written language may prepare the way for more care and thought in the use of the spoken language, and may correct the tendency to take such liberties with the English of speech as the use of slang, colloquialisms, and abbreviations. This is a more important point than at first sight it appears to be, because consequent upon the use of slang and colloquialisms is a limited vocabulary; and as poverty of thought is answerable for poverty of words, so also is poverty of words answerable for poverty of thought. English-speaking people would do well to consider whether they are not doing much harm by their often thoughtless but none the less mischievous contempt of their birthright, the use of the fullest and richest living language.

The object of the study of English literature is to keep alive and to nurture in every child the poet, which, according to Sainte-Beuve, is born in all of us, but which rarely lives beyond infancy. With the growth of the poet will grow the poet's yearning for beauty of thought and beauty of expression, and it is the responsibility of the teacher of English literature to ensure that when such hunger demands bread, it is not given a stone. This responsibility is a heavy one, perhaps the heaviest that can be laid upon a teacher, because in no other subject is it more easy for the teacher to make the mistake of doing the work instead of the pupil, and in no other subject is that mistake attended by more disastrous

consequences, since its committal may rob later years of that which should provide their best pleasure. It is difficult to dogmatize as to the method of teaching English literature: there are almost as many opinions as teachers, and diversity of method probably matters little provided that each method is scientific and sympathetic. Some teachers hold that a knowledge of the history of literature is essential as an introduction to the knowledge of literature, others advocate the close study of particular books to the exclusion of history: possibly a scheme which offers a compromise between these two extreme views may be found to work most advantageously—a concentric scheme which introduces the pupil to the great names of each period taken in chronological order and as far as possible to something of the works of each. Some such scheme as the following, the first part of which may be supposed to extend over two years, and the second, involving work of the same kind but of greater difficulty and in closer detail, over another two years, providing in its entirety for the ages from twelve to sixteen years or from thirteen to seventeen years: (Part I) *The Age of Chaucer*, a short history of Chaucer and his work, reading parts of the Prologue to the "Canterbury Tales"; *The Age of Shakespeare*, a short history of Shakespeare and his work, reading "A Midsummer Night's Dream"; *The Age of Milton*, a short history of Milton and his work, reading "L'Allegro" and "Il Penseroso"; *The Age of Addison*, a short history of Addison and his work reading some essays from the "Spectator"; *The Age of Wordsworth*, a short history of Wordsworth and his work, reading many of his shorter and simpler poems; *The Age of Tennyson*, a short history of Tennyson and his work, reading parts of the "Idylls of the King": (Part II) *The Age of Chaucer*, a short history of Chaucer's literary con-

temporaries, reading one of the "Canterbury Tales"; *The Age of Shakespeare*, a short history of Shakespeare's literary contemporaries, reading "The Merchant of Venice," or "Henry V," or "As You Like It," or "Julius Cæsar"; *The Age of Milton*, a short history of Milton's literary contemporaries, reading "Lycidas"; *The Age of Addison*, a short history of Addison's literary contemporaries, reading some of Steele's Essays; *The Age of Wordsworth*, a short history of Wordsworth's literary contemporaries, reading the "Ode on Intimations of Immortality"; *The Age of Tennyson*, a short history of Tennyson's literary contemporaries, reading Browning's "Saul".

In working such a scheme, provision should be made for much learning by heart from each of the suggested books. Learning by heart should always play a large part in any scheme for teaching English literature, as should also practice in reading aloud with clear enunciation and appreciative understanding, with the hope of fulfilling Carlyle's famous dictum, so flattering in the promise extended, so disappointing in the elusiveness of its attainment, that "we are all poets when we read a poem well".

Such a course as that given in detail above should leave the pupil with some conception of the history of English literature viewed as a whole, some knowledge of the greatest English writers and their work, some ideas as to when and why great changes in thought and style were brought about, and above all, an interest that is wide awake and a desire that refuses to be satisfied for more knowledge and more reading.

Before the age at which the systematic study of English literature is generally begun, that is twelve or thirteen years, considerable time should be given to reading in class prose such as "The Talisman," "Ivanhoe," "Here-

ward the Wake," and narrative poems such as Scott's epical romances, Macaulay's "Lays," Longfellow's "Evangeline". Poetry which is fairly well within the comprehension of the learner should be learned by heart.

It is essential for the successful carrying out of any scheme for the teaching of English literature that it should be in the hands of specialists and should never be left to the many people who are ready to undertake the teaching of "all the ordinary English subjects" without being suitably equipped to do so. Another point which should be insisted upon is that the books used by the pupils should have very few, or better still, no notes. The copious notes of many editions of school books are a source of great danger to the pupil: the knowledge that they are there paralyses individual effort, destroys initiative, encourages the idea that passages on which no notes are given have therefore no need of attention, and fosters in general a slovenly, desultory kind of reading. Also the pupils should have no manual of the history of English literature for use in class, although access to a good reference library is desirable. Explanations of difficult passages and the giving of historical and biographical information should, as a rule, be left to the teacher, on whose knowledge and appreciation of the subject depend the foundation of the knowledge and the awakening of the appreciation of the pupil.

Reference to the returns kindly supplied by the schools asked to furnish information about the teaching of English shows, as might be expected, the existence of considerable variation in the treatment of this subject, but it is clear that at the present time the study of English is receiving the close attention and the scientific handling that will make it *actually* the educative force that it has always been *potentially*. We are at last

beginning to realize that the neglect of the study of our own language is little short of criminal,

> Since every man whose soul is not a clod
> Hath visions and would speak, if he had lov'd
> And been well nurtured in his mother tongue.

ROSALIND M. HAIG BROWN.

CHAPTER VI.

GEOGRAPHY.

THERE has been a great change in educational ideals and methods of late years, and perhaps this change has nowhere made itself more strongly felt than in the teaching of geography. Formerly this subject was to a great extent gazetteer work, and consisted in large measure of lists and names which the pupil committed to memory. Now geography is considered as a science, and therefore the method of teaching is scientific, and aims at training not only the memory but also the powers of observation, reason, and imagination.

Geography is the study of physical conditions in their effect on human life on the earth. From this it will appear that it is a subject which is naturally related to science on the one hand—which will explain the physical conditions; and to history, economics, and sociology on the other—which are in many cases modified and explained by geographical controls. Yet geography is none of these; it is explained by the one, it helps to explain the other. It is closely linked to both, and this must be recognized all through the school course by careful correlation of history and science with it. Geography is so many-sided, and includes so many subjects, that the whole is unwieldy unless some unifying principle is seized. The humanizing of the subject is such a principle. Geographical facts must be related to man or they have no real significance and little educational value.

The comparison of schemes of geographical work from a large number of schools reveals considerable differences of opinion as to the guiding principle. In many the teaching is founded upon geological considerations or is closely correlated with the study of science; in others the human side is uppermost, and there is evidence of a close correlation with history. As an instance of a school in which this is the case, the work in geography for children, average age ten years nine months, is as follows:—

"Stories of early civilization and exploration beginning with Abraham's journey, and his wandering life as a keeper of flocks and herds. The Israelites' journey into Egypt, the land of corn—the Nile; the Phœnicians, their trade and colonization. The Greeks and Romans—Alexander the Great, and his conquests in Asia—Hannibal's march—the Northmen—Marco Polo—Prince Henry the Sailor—Vasco da Gama—Columbus."

It is necessary that there should be differences of opinion and variety of type, and the school environment will probably demand a special emphasis on some particular aspect of geography. Also personality in a teacher is a vital need for the pupils, and so it is important that she should plan out her own syllabus, and not be bound by that of anyone else.

The work done in the schools may be roughly divided into three stages, viz.:—

Stage I, ages eight to eleven, 3 years' work.
„ II, „ twelve to fourteen, 3 years' work.
„ III, „ fifteen and upwards, probably 3 years' work.

With regard to the guiding principle of these three stages—in the first, in its introduction to little children the interest is largely *human;* in the next stage, representing the age of inquiry, it is largely *scientific;* and in the third and final stage, it is once more *human,* and its

historical, sociological, political, and economic aspects are emphasized.

Stage I, eight *to* eleven.—In most schools there is some preliminary work in the preparatory or kindergarten, consisting of stories helped by pictures and sand models. Such, for example, is the following:—

"Form I, Lower (ages five to seven), have no formal geography but take delightful lessons on primitive man with much handwork. The story of Ab is being taken at present; Tig has been taken other years."

Dr. Lyde suggests that these stories are made more real by plans chalked on a blackboard lying on the floor or across two forms.

The importance of this first stage can hardly be overemphasized, as it is in these early years that habits of mind are formed.

During the first year the telling of stories is continued, the first ideas of home geography and of world geography are brought out, and the foundation of the understanding of maps is laid.

(*a*) Home Geography.—If the training is to be scientific we must work from the known to the unknown, and the immediate neighbourhood must be first studied by direct observation. Accuracy should not be attempted too early, but reality must be secured. Plans are drawn of classrooms, net-ball court, or garden, and later of neighbouring roads and walks. There are practical difficulties in the way of these walks, especially in towns, but where they can be arranged they are a great factor in geographical training. From one school, for instance, comes the following:—

"Beginning of home geography, a walk from school up Shooter's Hill: the children notice directions of well-known objects, and the directions of roads are noticed. The children make rough plans of their walks from memory at the next

lesson. Later there is a lesson on a river, and a stream is followed by the children, and a map made from memory. Plans of Eltham made—Plan gradually enlarged to the county of Kent—Lesson on hops, chalk pits, fishing towns, etc."

The object of these walks and school journeys is to form a habit of mind leading the pupil to take a keen interest in her surroundings, and the work is really an extension of nature study. If during the three years of this stage the immediate surroundings are studied in this way, a child learns something of rivers, canals, hills, plains, roads, steep and gentle slopes, etc., from first-hand experience. Most schools find occasional walks and expeditions feasible even in towns, and they are a great help in training the children's powers of observation, and this habit of regularly observing and setting down what is observed is very valuable to acquire. Even where this form of outdoor work is not possible, much supplementary work is done in the playground or class-room. The sense of direction is cultivated by noticing the direction of the shadow of a stick at varying times of the day, and daily observation can be made by the youngest of wind directions and kind of weather. The understanding of the relationship between mountains and rivers is obtained to a certain extent by modelling in damp sand. Some schools find a geography garden of great use at this stage, as mountains made of soil and stone seem more real to a child than smaller sand models. In one school, for instance, the geography garden covers a space of about 24 ft. by 18 ft., and its mountains rise to about 4½ ft. By using a hose-pipe and the rose of a watering-can the children can get something of the effect of rain on the hill-tops, and can watch the first trickling of a stream down the sides, and the gradually accumulating water as the little streams run together and the river broadens to

the plain. In other cases the geography garden is made to represent a particular river basin, as that of the Rhone; and in one school it consists of "an asphalted space with water laid on, and drainage provided, where modelling with sand, gravel, and clay can be done on a large scale, and experiments tried, as, for example, to illustrate the phases in the life history of a river".

In the winter the effect of frost in splitting up the ground can be noticed here.

The playground is used for observations on weather, on the position of the sun, and for first ideas of direction and level. In the class-room much interesting modelling is carried out in sand or clay, especially after "field days"; and experiments in water and plant life may be made very suggestive. Each child should work independently of the others where possible, and a sand tray for each is almost a necessity.

(*b*) World Geography.—But children need to have this work applied to the world at large, and some general treatment of world regions should be introduced, as it gives scope for the powers of imagination and tends to correct and widen the first geographic lessons of the home region. In most schools the stories of the kindergarten are continued and the children's imaginations are developed by passing from familiar scenes to strongly contrasted scenes of animal and child life, in deserts or forests, by river or by sea, in hot lands and in cold lands. They hear of Mongolian children, of Indian and of negro children, and see pictures or models of Kaffir huts, flat-topped Eastern houses and snow huts of Eskimo. These stories are helped by pictures, and especially by plans or models made by the children themselves. The story of Hiawatha, for instance, lends itself well to illustrations by plans and models of the wigwam of

Nokomis between the pine woods and the sea. In Herbartian schools in Germany the story of Robinson Crusoe is treated in much the same way, and the children put themselves in his place, as it were, and help him to invent and make the things necessary for life. To take an example of such work from one school :—

"Stories to illustrate any point such as Hannibal's march into Italy. Lost in a desert; making of miniature desert, oasis, etc., children furnishing all material, and with background of their own brushwork and chalkwork."

Such story-telling appeals to the imagination, gives the children an insight into life in other lands, and develops the powers of observation and invention and the training of the hand. A judicious use of pictures and lantern slides may be made, provided that they are sparingly used and wisely chosen. If too many are shown the children's imagination is not allowed full play, and they do not form mental pictures, but rely too much on the visible ones.

Children should from the first become accustomed to the globe, and they thus unconsciously learn its shape and the fact of its rotation. The conception of the globe is a difficult one, but not to children who accept it unconsciously. In some schools each child has her own small 4 inch slate sphere and the teacher a larger one on which she can chalk land areas. In order that the children may thoroughly realize land masses and the relief of the land they are trained from the first to draw for themselves instead of merely looking at globes or maps. Later each girl should have a similar globe with the land areas massed in white, and on it find the countries of which she hears, and so she will come to expect the hot lands to be near the Equator and the cold lands near the Pole; she will hear of Peary, Nansen,

and Shackleton, and of Cook, Livingstone, and Columbus; she will learn to know the continents by name and to draw them from the round world on to paper. The idea of a map comes by indefinable stages and by light let in from all directions, and is derived in the first place from the modelling and plan-making and from the sense of direction.

There is practically a concensus of opinion on this foundation work of the first year of this stage, but great differences show themselves as to the underlying principles of what should follow. Some reason that in going from the *known* to the *unknown* we should logically widen the scope of home geography from that of the immediate neighbourhood to that of the county, thence to the country, and finally to the continent. Those who reason in this way make the British Isles their special study for the second year and the continent of Europe for the third year of this stage. Others reason that it is more logical to continue in the second year on the lines already laid down in world geography and to consider the world as a whole, and then in the third year come to the special study of home lands. Dr. Lyde in his "Teaching of Geography" takes this point of view and it seems undoubtedly the best. The unknown lies outside the immediate neighbourhood; and it is better, as a method of training and for laying the basis for future work, to go from the known small area around them to the unknown world. When the foundation of a knowledge of world geography is laid, that constant reference to and comparison with other places which is so necessary in the study of regional geography becomes possible.

During this second year the children learn something of the movements of the earth, the seasons, the changes in length of day and night; the position of the great

land masses is revised and the configuration of land relief emphasized. The teacher could show this by using plasticene on the large slate sphere to give relief. More detailed work is done of the relation between water and mountains, of drainage and slopes, and this is associated with practical work of modelling in sand and plasticene and with work in the geography garden. Some interesting practical work is done in some schools of making a model in plasticene of an imaginary island. The children put themselves in the place of explorers approaching the island by ship, decide upon the best place of landing, fix upon some good spot for pitching their camps and finally for building their huts and settling there, and in this way they find for themselves some reason for the position and growth of towns. This sort of work is good as it appeals to the imagination and gives scope for originality.

Stories of people in different lands and of exploration are continued, but home reading gradually takes the place of these, and the school library should be supplied with suitable books, such as "The Jungle Book," "Coral Island," "Water Babies," "Robinson Crusoe," "Little Folk of other Lands," "Treasure Island," and stories of explorers in Jack's series of "Stories told to the Children". Some good practical work also in connexion with life in other lands is done in the geography garden, and the children make little models of Swiss chalets, Burmese huts, an Egyptian mud village, an oasis in the desert, etc.

The walks and field work are of course continued, and these include a training in the sense of direction, observations of weather, etc. In some cases weather-charts for the current week are kept posted up in the geography room for constant reference. During these walks the

children notice height and distance as much as possible, and so get more accurate ideas of simple heights as 10 ft., 50 ft., 100 ft., and of simple distances as 100 yds., ½ mile; these few clear ideas serve as "units" and help afterwards in their conception of measurements.

During the third year of this stage the special study is that of the home lands, but there must be constant reference to world geography throughout and comparisons made between the conditions of the country studied and those of others. This can best be done by using the slate globe on which the land masses are shown in white rather than a map of the world. In studying the home lands the river valley is generally a more important unit than the mountain system; valleys may be regarded as the seats of population, wealth, and civilization, as lines of least resistance facilitating communications; while the influence of rivers on transport and irrigation, and of their flood plain on agriculture cannot be over-emphasized. The children's knowledge of the meaning of maps is strengthened and they have more practice in drawing them; chalk maps on brown paper are good. In many schools the first knowledge of contour maps is now gained; the meaning of contour lines on a map may be made more clear by taking sections of a plasticene model and outlining them on the blackboard. The outdoor work consists in part of visits to places connected with local industries or occupations, such as a coal mine and factory, and to places of historical interest, whose position can be explained by the relief of the country.

In one school the general experimental science course of the third year of this stage is correlated with experimental facts in physical geography, and consists of experiments in "Action of heat on common substances—Solubility—Observational study of rocks—Causes under-

lying common natural phenomena, e.g. formation of dew, weathering of rocks, etc.—Experiments which arise from the subject-matter of the geography lesson; thus a lesson on a journey across the Sahara leads to the consideration of the properties of sand and the porosity of different soils and so on ".

The question of textbooks is a very vexed one, and the ideal one has not yet been found. As a general rule no textbook is used in the first and second years, but many schools base the lessons on the home lands on Mackinder's "Our Own Islands". Mrs. Herbertson's "Elementary Geographies" are very useful at this stage. An atlas showing relief is the best, such as that of Philips or Relfe.

Stage II, twelve *to* fifteen.—In this stage the guiding principle is mainly scientific, and there is close correlation between geography and the elementary science and practical geometry work in many schools. Speaking of the geographical work of girls of this age, Prof. Herbertson says: "We must encourage the habit of asking questions and discovering answers—a practice which can well be followed by boys and girls of this age. Pupils should now learn that textbooks are little more than convenient summaries. They contain by no means all that a child of this age wants to know. Standard encyclopædias, books, atlases will answer many questions not in the textbook."

During this stage the majority of schools study the great continental areas or natural regions, but the order in which they are studied and the method of attack differ greatly. L'Estrange advises the following order: "(1) Position in the world and comparative area; (2) surface characteristics and structure; (3) seasonal temperatures and pressures, winds and rainfall, vegetation—natural

and industrial, minerals, communications, distribution of population; (4) political divisions and actual state of development; history explained by geographical considerations". Also in the memorandum sent out by the Board of Education the approach is from without and the world position of a continent or natural region is first considered. Many teachers, however, prefer to vary the attack and sometimes approach a continent from without, or sometimes from within, from considerations of the life, occupations, and modes of communication of the peoples. In some cases the point of view is that of exploration and the appeal is to the human interest and imaginative side, as in the following: "America—The Age of Discovery —Some of the great voyagers—Columbus and Amerigo Vespucci, Magellan, Raleigh, Frobisher, and Drake".

The schemes of work show much difference of opinion as to the order in which these regions should be studied, and many geographers argue that North America is the best to start with from the geographical point of view. But from the point of view of correlation with history and other subjects, and of the general knowledge possessed by girls of this age, Europe is undoubtedly the best. The history lessons are often correlated to a certain extent, and consist of general outlines of the rise of European civilization, as for instance :—

"Ancient Greece—Rise and fall of Athens—Growth of Rome —Punic Wars and conquest of Roman Empire—Destruction of Republic and rise of Emperors—Fall of Roman Empire— Charles the Great—Struggle between Papacy and Empire— Invasions of Northmen—Saracen invasions—Capture of Constantinople—Renaissance and Reformation—Discovery of New Worlds—Development of nationalities, England, France, and Spain."

But in all cases whatever the method of attack may be there is constant reference to world geography, the founda-

tions of which have been laid in Stage I. In Stage II, however, scientific considerations prevail, and these should enable the pupils so to consider the physical conditions of each continent as to lead up to a division of the world into natural regions.

Much map work is now done, and the girls learn that maps are little more than convenient summaries and that many classes of facts can be so summarized. For instance, in beginning a new continent the causes of desert or tropical forest or tundra are questioned and the pupils turn to the rainfall map: this is questioned and explained by a wind map: this in its turn is questioned and explained by a temperature map, and for the understanding of the first principles here involved correlation with physics is necessary. Or again, the class studies a map showing density of population and accounts for as many of its facts as possible by the maps already studied. During this stage the ordnance map becomes familiar, and here the practical geometry course is sometimes correlated. Each girl should have a 6-inch map of the school district, or if that is in a large town a map of some neighbouring hill or valley, clear enough of buildings to enable contours to be examined and sections to be drawn, and near enough for its features to be known. The girls become familiar with maps of their own district on other scales by seeing them on the walls of the geography room. If possible, at least once a term an expedition should be made in connexion with the map to connect the actual place and its representation. Lantern slides are used for the same purpose; first a slide of an ordnance survey map showing contour lines is thrown on the screen; then its vertical projection; and lastly the picture of the mountains or hills themselves, and in this way the actual scenery is connected with the map.

The names and positions of physical features and chief towns must be learned; there is a tendency in modern geography to neglect these points. A good atlas is, of course, necessary, and the majority of schools use either Bartholomew's or Philips' Comparative. There is still demand for better wall maps and more of them; the Sydow Habenicht series is most used. The question of wall relief maps is a vexed one, as there are very few good ones and the proportions are incorrect; at the same time they give a good idea of the relief of the country to younger children. Wall maps, giving for each continent pressure and winds, temperature, rainfall, vegetation, density of population, as in Bartholomew's Economic Atlas, would be extremely useful. These need only be about one-quarter the size of ordinary wall maps, and should be on one sheet so that all may be studied together.

The physiographical side is not neglected, and a more accurate knowledge of the movements of the earth, seasons, length of day and night is obtained; also the first understanding of latitude and longitude, of winds, currents, and tides is given.

Practical and Field Work.—The practical and field work of the first stage are continued. Several schools have a rain gauge, and rainfall, temperature, and pressure graphs are made. The Eltham School supplies to the local paper a full weather record for each week. The records from the Meteorological Office can be obtained and are of great use. It would be interesting to co-operate with other schools and exchange weather experiences which contrast with our own.

Problems on practical work are done in the class-room, and suggestions are to be found in the many textbooks which have been published lately, such as that of Unstead. Some of these problems dealing with a sense of direction

may be practically done in the garden or playground; each girl has a compass, and from the directions given to her reaches her goal.

Some elementary map-making is done in the geography garden; by the help of a theodolite or a home-made protractor the angles made by the mountain peaks with a fixed base line are measured, the exact position of the peaks found, and the map drawn. The girls lay a railway line, make embankments and cuttings; make a canal; and continue the illustration of varying types of dwelling-places by small models.

Textbooks.—Here again there is a great variety of opinion. Many schools adopt Mr. Mackinder's "Lands Beyond the Channel" for the basis of European study. Many others use Prof. Herbertson's series of Preliminary and Junior Geographies. Mr. Mackinder's series will shortly be completed by "Distant Lands" and "The Nations of the World". His treatment is that of threading beads of scientific or physical facts on a chain of history; while Prof. Herbertson may be said to thread beads of history on a chain of scientific or physical considerations. Another popular series is that of Miss Reynolds, and other teachers warmly commend L'Estrange's Comparative Geographies.

Stage III, fifteen *and onwards, probably* 3 *years.*—In this stage the school syllabuses show more variety of work than in any other; on the one hand some schools are trammelled by examination work, and on the other, those who have freedom of choice of syllabus vary it greatly, and much interesting experimental work is being done. There is a certain unity given by the fact that the guiding principle is mainly the human one.

The following courses are the ones most generally taken:—

(*a*) The world treated regionally on the lines laid down in the Oxford Geographies. As the girls have already studied physical causes upon which the classification into natural regions is based, they are now able to study economic consequences more directly, and as far as possible to consider the geographical setting of historical movements.

(*b*) Home geography mainly based on study of the Ordnance Survey Map. Independent research can be carried out in a wider and fuller treatment of the home land than has yet been possible, and this intensive work is balanced by world study. Each girl has an inch-to-mile sheet of her own district and is encouraged to gather all possible information about it. The contours are outlined, sections taken across the main features; drainage, water supply, geology, and vegetation studied, and its part in English history made out; local history, architecture, occupations of the people; physical conditions and their effect on parish boundaries, etc., are considered. Each girl takes one line of research, and the whole may be put together in one synthesis.

(*c*) Study of the home lands gives an opportunity for a much more detailed study of the British Isles than has hitherto been possible. In the case of one High School the scheme shows an interesting correlation with history, and the British Isles are studied in the following stages of development:—

Pre-Roman—Natural distribution of forest, moor, grass, and fen-land.

Post-Roman—Prominence of strategical positions—roads and bridges, etc.

Britain at Conquest—Development of South-East, Rise of ports.

Fifteenth Century—Wool trade, Iron smelting, Deforestation of South-East.

Industrial Revolution—Shifting centres of population, etc.

(*d*) Many schools give a year of this stage to the consideration of the British Empire, but others object to this as it is not a geographical unit. It has its advantages in giving a realization of the extent and responsibility of the Empire, and in awakening an interest in the Colonies. Use is constantly made of the geographical knowledge already gained, although this knowledge is applied and realized afresh. The work can be made very real and immediate by a skilful use of contemporary newspapers, magazines, and books; and the interaction of geographic control and human activity becomes increasingly obvious.

There are many other interesting suggestions from individual schools, such as :—

(*a*) Palestine and the adjacent countries, considered in correlation to Scripture.
(*b*) Europe correlated with history—George's "Discovery and Colonization"—North America correlated with history.
(*c*) Lectures and extracts from travel.
(*d*) Any geographical questions of the day.
(*e*) Lectures on exploration and explorers.
(*f*) Mathematical and astronomical geography.

During this stage the practical and field work are continued and some elementary surveying can be done; the physiographical work of Stage II is continued, and a more thorough knowledge of latitude and longitude, of winds, currents, and tides is obtained.

Again there is great difference of opinion and dissatisfaction as to textbooks, but as new books and new editions are constantly coming out this will probably be remedied. There should be included in this stage a final survey of great natural regions, as in Herbertson's Senior Geography. An excellent book on the British Isles suited to this stage is that by Morley Davies.

It is of vital importance that each teacher should make her own scheme, depending on her own special interests

and capabilities and on the special circumstances of the school environment. The scheme suggested below embodies the ideas of many of the syllabuses carried out in the schools, but is especially based upon that of the North London Collegiate School.

Stage I (ages nine, ten, and eleven years).

1st Year.—First ideas of home geography, of world geography, and the foundation of the understanding of maps.

2nd Year.—World geography, based on human interest, but so chosen as to give a knowledge of the principal types of (*a*) water and land forms, (*b*) climate, (*c*) vegetation; and treated with constant reference to the globe.

3rd Year.—The home lands in broad outline.

Practical Work.—Outdoor work on the study of water and land forms. Very elementary map-making and map-reading. Field work and work in geography garden.

Stage II (ages twelve, thirteen, and fourteen years).

Europe, then America, Asia, Africa, and Australia treated descriptively, the study of their build and hydrography as affecting the movements and occupations of man. Constant reference to world geography. Correlation with science throughout, and with history when possible.

Practical Work.—Extension and amplification of the previous stage. Contour maps and Ordnance Survey maps. Experiments suggested by the physiography.

Stage III (ages fifteen and onwards).

Alternative courses suggested:—

(*a*) Natural regions with stress on physical causes and economic consequences.

(*b*) Home geography mainly based on the study of the Ordnance Survey map.

(*c*) The British Isles in detail.

(*d*) Palestine and adjacent countries considered in correlation to Scripture.

(*e*) The British Empire.

In all cases continuation of physical and mathematical geography, and constant reference to world geography and correlation with other subjects, where possible.

Practical Work.—Very elementary surveying; the use

of Ordnance maps; the making of statistical maps and graphical records; the keeping of meteorological records.

(The majority of schools have two lessons a week throughout.)

Geographical Equipment.—It is quite as important for the teacher of geography to have her special room containing the necessary equipment as for the teacher of science to have her laboratory. The room should be a large one with blackboards round the walls and plenty of space for maps, pictures, etc., above. Such pictures as "The North-West Passage," "The Boyhood of Raleigh," and "The Scapegoat," should find a place there. Other equipment needed is:—

(*a*) Good wall maps and stands, or arrangements by which they can be easily shown. Relief maps, provided that they are really reliable. Copies of Ordnance Survey maps of the neighbourhood to different scales for each girl.

(*b*) A globe showing relief hanging from the ceiling. A good one can be obtained from Messrs. Philips. A sufficient number of blank slate spheres and of those with the land massed in white for each girl to have one.

(*c*) A reflectoscope with lantern slide attachment. This may be utilized for showing picture post cards, diagrams, and maps, and it is more possible to obtain these than a large number of lantern slides. Lantern slides can be made by the School Photography Club, or the Diagram series obtained from the Geographical Association; or in the case of the schools in the West Riding of Yorkshire, the County Council has a splendid collection to lend to the teachers.

(*d*) Pictures for illustration. L'Estrange's types of scenery and the smaller ones published by Black are especially good. Illustrations collected by the girls from

various newspapers. In one school "a portfolio is kept to which the whole Form contribute any pictures obtainable which illustrate the lesson. These they classify themselves and mount on sheets of brown paper with an appropriate heading, thus producing a pictorial record of much of the subject-matter dealt with."

(*e*) Stereoscopes and sets of stereographs. Here again each girl should have a stereoscope and a copy of the same picture. The advantage of these over the lantern slides is that by showing relief they give a better conception of such a picture as that of a glacier.

(*f*) A museum cupboard containing a geological collection from the neighbourhood and various exhibits collected by the girls themselves.

(*g*) Sand trays or table; sand and plasticene.

(*h*) Meteorological records.

(*i*) A good geographical library, containing atlases, books of reference, geographical magazines such as that of the Geographical Association and the Royal Scottish Magazine. These are mainly for the use of those elder girls who are reading for some higher examination or working towards the Oxford Geography Diploma. The library should also contain works of travel and exploration, such as Miss Kingsley's "Travels in West Africa," Miss Edward's "Thousand Miles up the Nile," Cromer's "Egypt," Fraser's "Round the World on a Wheel," Shackleton's "Heart of the Antarctic," Stevenson's "Across the Plains," Treves' "Other Side of the Lantern"; stories such as the "Jungle Books," "Robinson Crusoe," Mason's "Four Feathers," M. Johnstone's "By Order of the Company"; poetry such as "Hiawatha," "Childe Harold," Kipling's "Seven Seas," Newbolt's "Island Race," Noyes' "Drake".

Other equipment for practical or outdoor work con-

sists of a geography garden; a plane table and theodolite; chains for surveying; spirit levels; a compass; maximum and minimum thermometer; a rain gauge.

Clubs, etc.—Many schools have a Science Club which meets for the reading of papers and discussion on scientific matters of general interest. In one case this club contains three sections, viz.: (1) geography, (2) photography, (3) gardening. "The geographical section visits museums and other places in quest of objects of geographical interest."

Exhibitions are held showing exhibits collected by the girls illustrating life in other countries; such, for example, as an exhibition on Empire Day of products, etc., from the Colonies.

In some schools the girls write accounts of places visited during the holidays and illustrate by drawings, photographs, or picture post cards. Most schools have a newspaper board on which are put cuttings and illustrations of general interest, and geographical pictures find their place there.

For the material for this report I am greatly indebted to the many geography mistresses who have helped me, and especially to Miss Rogers (Thoresby High School), and Miss Oswald (Bradford Girls' Grammar School), for their collaboration, and to Miss Black (Wakefield High School), and Miss Odell (North London Collegiate School), who have discussed it with me and given me many valuable suggestions.

GERTRUDE MCCROBEN.

CHAPTER VII.

HISTORY.

A. General Conditions.

It is safe to predict that no English minister of education will ever be able to point to the clock and say, "At this moment every child in this land is studying the same chapter of English history". But although we may rejoice in our freedom as contrasted with French routine, an examination of the very varied syllabuses of history work in girls' secondary schools cannot fail to show that in many cases no definite principle is followed.

In the majority of schools there is no attempt to give a survey of the world's history; in some, a year of Greek history in the Sixth Form or a special period of foreign history in the middle school is all that an average pupil hears of the growth of nations other than his own. Local history, civics, and colonial history are rarely included in the syllabus which in most cases ends at 1815.

It is doubtful if the constant iteration of English history thus isolated and abbreviated is of much educational value, and it certainly tends to produce a false estimate of our national importance and to overload the mind with unnecessary information.

The constitutions of Clarendon and the details of the campaigns of the Wars of the Roses may still be found in textbooks, but children should be protected from

such things. One of the most difficult and important tasks of the history teacher is the selection of the points on which he means to dwell. Amidst the wealth of material he must be as ruthless as the rose-pruner in the midst of his garden.

From the purely utilitarian point of view it is essential that embryo citizens should know something of the empire to which they belong and of the duties and responsibilities which await them. The history of the nineteenth century should therefore form part of every syllabus, and any current event of importance should be carefully explained.

The realization of the fact that the daily newspaper is the sequel to the history textbook marks a very definite step towards the understanding of Freeman's definition —"History is past politics; politics is present history".

B. Schemes and Methods.

In most schools two lessons a week is all that can be claimed for history; some, however, are more fortunate (see Appendix). The following suggestions presuppose a minimum of two history lessons with such occasional additions as may be gained by the correlation with geography, literature, drawing, and reading.

The best course seems to be that which provides for pupils under seventeen a double survey of general history in outline and of English history more fully treated, followed in the higher forms by the study of a special period or special subject involving the reading of an historical classic and some reference to original sources.

Thus, a pupil who has spent eight or nine years at a good secondary school should have gained from his history work:—

1. A broad general view of the progress of mankind.
2. Some knowledge of the responsibilities of citizenship.
3. Training in accuracy of thought and expression, observation, judgment.
4. A sense of historical perspective.
5. The art of using books.
6. Some degree of illuminating power whereby he may picture the past.

The actual arrangement of such a course must vary according to the average leaving age in the school, but generally speaking it is possible to give before twelve a survey mainly biographical of the chief events of history from the earliest times to the present day. The reading lesson may be utilized for this purpose—such books as M. B. Synge's "Story of the World," and "Our Island Story," published by T. Jack, are thoroughly appreciated by children of ten.

The correlation of history with geography can be carried on with great advantage at this stage (see Miss Burstall's article in Board of Education Special Reports, Vol. II).

Between twelve and seventeen a review of general history should be given, in which the skill of the teacher will be best shown by his omissions, and a fuller course of British history, illustrated wherever possible from local surroundings, and always inclusive of nineteenth century.

Some schools make the two parallel, giving one lesson a week to England and the other to Greece, Rome, or modern Europe, but the better plan seems to be to devote one year to ancient history, one to mediaeval and modern, and two to Great Britain, thus preserving a time sequence.

In Clapham High School there is a year's revision of English history between the course on Greek history for girls of thirteen and that on Roman and mediaeval for

girls of fifteen and sixteen, so that those pupils who enter late and leave at sixteen shall not resemble Byron's schoolboy "who marvelling at the name of Magna Charta, yet well doth recollect the laws of Sparta".

After sixteen it is to be regretted that too often the demands of examinations necessitate the study of a special period. Most valuable in this connexion is the advice given by Prof. Tout in his address to the Historical Association on "Outlines versus Periods":—

> You cannot study a limited period with success until you have acquired the capacity to create it in some relation to its environment. . . . Much historical detail is highly uncertain as well as highly unimportant. . . .
>
> Periods become doubly dangerous when the teachers have no voice in their selection.

There is no doubt, however, that much valuable training can be given by the study of a period provided that the pupil has reached one of the highest forms, and that he has already acquired a general outline of the development of mankind in general and of his own nation in particular. But nothing can be more mistaken than the detailed study of a period with children of twelve to fourteen. They lose completely the sense of perspective which is one of the chief gifts that the study of history can bestow; their minds are burdened with minute incidents better forgotten, for since small men loom large it is necessary to eke out the portraits of the great, and the additional information often obscures the likeness.

But to the Sixth Form boy the study of a period—never less than one hundred years—may be of great value. He realizes that the subject is a science; he can be shown the amount and the nature of the work which has produced even the textbook he uses; and from his own essays he can learn the crime of the unverified state-

ment, the necessity of seeing all aspects of a question, the danger of taking too much for granted.

Occasionally the examination fiend can be kept at bay, and then some really delightful work can be done with the older pupils: for example a course of civics on the lines followed by Mr. Hankin at King's College School (see Leaflet 15, Historical Association), some lectures and many discussions on social and industrial questions (see Appendix, Godolphin School), the study of a classic such as Prescott's "Peru" or Mahan's "Influence of Sea Power," a sketch of our colonies based on Prof. Pollard's "British Empire," any one of these will rouse keen interest, and lead to much thoughtful reading and inquiry.

Some enthusiastic teachers may even turn to constitutional history; but, treated as a separate subject, this is more suited for college than for school.

With regard to method it must be remembered that many paths lead to the same goal, and it is well for heads of schools to realize the wisdom of allowing a keen teacher to follow his own bent, since nothing is more infectious than enthusiasm. The subject is one of infinite variety and its presentment is capable of continuous change.

Very much depends on voice, manner, and sympathy when it is the task of the teacher to bring the past to life, and therefore it is possible for an excellent history lesson to be made dull and ineffective by a bad delivery. Monotony and monologue are dangers which must be subdued at all costs.

With older pupils the study of history affords such an admirable training of faculty that variety of work comes almost insensibly: extracts from original documents will be given to them not for unquestioning absorption but for critical examination. It is a deeply-rooted fallacy that A's estimate of B is more truthful than C's because

A lived at the same time as B. Judgment should be suspended until it is known how far A and C respectively were fitted to form an opinion.

Opposing estimates of great men and famous events should be considered, and each pupil should be asked to give his own conclusion and defend it.

In order to lighten labour certain pupils may be asked to undertake certain pieces of work involving consultation of many authorities, and the result can be used for the benefit of the whole class (see Miss Mercier's account of her experiment at Manchester High School, Leaflet 17, Historical Association). Of course a good library is essential to the success of such a plan, but it will probably be found that those in charge of local free libraries are ready to give young readers every facility for consulting books of reference.

C. Suggestions.

In the teaching of history and geography there is special danger that the outlook shall be too limited and the detail too elaborate. The subject is immense, and the learner should never quite let go the conception of its immensity. Without a feeling for the vastness of space and time there can be no true sense of far distant time and greatly different place.

These words of Miss Burstall's express admirably what every teacher of history should regard as his chief aim—the inculcation of a sense of historical perspective and of that imaginative power which makes the past rise to life. As a means to this end the value of time charts is very great provided that in every case the making and illustration be the work of the pupil. This occupation will rouse the interest of many who have sat passive and unresponsive through lessons, but the teacher must be on his guard lest the pupil lose sight of the object of his

work. The boy who said "We have stopped history in our form and we do charts instead" gave involuntary evidence against his master.

The same care should govern the use of illustrations: everything shown to the class should have a direct bearing on the lesson, and imaginary portraits of famous people or representations of historic scenes should be used with caution. Reproductions of contemporary portraits, prints, and MSS. are essential in making vivid the life of bygone times, but it is better to pin these illustrations on the wall and leave them there for the term than to try to circulate them in the class during a lesson.

It must never be forgotten that the most obvious illustration is often the most effective, and therefore no teacher can afford to be ignorant of local history.

A lantern lecture is an excellent way of making real "far distant time and very different place"; visits to museums and places of historical interest, the arrangement of occasional loan exhibitions of relics, coins, ornaments, etc., the acting of historical scenes with scrupulously accurate dress and diction—all these are valuable in creating an atmosphere. But there is no subject so susceptible of degenerating into a mere entertainment as history, and therefore definite work must be demanded as the outcome of every expedition, every lecture, every entertainment.

The growth of training colleges and the consequent tendency of young teachers to make their lessons conform to a fixed ideal has raised enormously the standard of teaching, but it is questionable if the knowledge of the pupil has increased proportionately. Occasionally it will be wise to give a lesson of the pre-training type; make the children read aloud a chapter from the text-book and question them on it rapidly—thus testing their

grip of what they read, their memory, their facility in oral composition. Then make them say their dates and give the chief provisions of Magna Charta and the main powers of their county or borough council. The lesson will transgress all pedagogic rules but the class will benefit by it.

Throughout this paper it has been assumed that those who teach history have had special training in the subject, but it is of course occasionally necessary that the lessons fall into the hands of one whose chief recommendation is his willingness to accept the work.

In such a case the teacher will gain most valuable support from the publications of the Historical Association. The memorandum on the teaching of history issued by the Board of Education will also be specially useful because of the broad lines on which it is based. It should be in the hands of all who attempt to teach the subject, though it cannot fail to increase the feeling of inadequacy which is inseparable from their task. But of history more than of any other subject it is true to say "the reward is in the doing".

EDITH H. MAJOR.

SCHEMES OF HISTORY WORK.

BEDFORD GIRLS' MODERN SCHOOL.

Form.	*English History.*	*European History.*
I.	1066-1327.	
Lower II.	1327-1603.	
Upper II.	1603 to modern times.	
Lower III.		Greek and Roman to Constantine.
Upper III.		Barbarians' invasions to modern times, including Britain before 1066.

Form.	*English History.*	*European History.*
Lower IV.	1066-1399.	
Upper IV.	1399-1603.	
Lower V.	1603-1714.	
Upper V.	1689-1815.	
VI.	1689-1815.	1763-1815.

CENTRAL FOUNDATION GIRLS' SCHOOL.

Form I.—Greek stories: Gods and heroes. English stories: early times to Elizabeth's day.

Form II.—Roman stories. English stories: from Elizabeth's time until to-day.

Form Upper II.—Story of the Empire: Vasco da Gama, Columbus, Drake, Pilgrim Fathers, Wolfe, Clive, Cook, Loss of American Colonies, Nelson, Livingstone.

Lower III.—History of London with Bishopsgate as centre. Roman London. Later London; fortifications, bridges, foreign settlers, trade.

Upper III.—Early times to 1485, English history with European connexion.

Lower IV.—History 1485-1689. English history with European connexions. Civics: meaning of civics. Rôle of the individual in national life. Rights and duties of citizens. Central government. Executive government.

Upper IV.—History: 1689 onwards. English history with European and Colonial connexions. History of London; the great buildings. Civics: Local government.

V.—History: world history. Great ancient Empires; formation of modern nations; development of new world. Civics: Judicial system. Poor Law. Education. Trades unions.

Lower VI.—History: England 1815-1880. Civics: as in Upper VI.

Upper VI.—History: England 1688-1900. Civics: Citizenship—its rights and duties. Central government. Executive government. Local government. Judicial system. The Empire and its work.

CLAPHAM HIGH SCHOOL.

Age 13.—Greek history to 323 B.C.
14.—Revision of English history.
15.—Roman and European to 1453.

Age 16.—European to present time.
17.—English history, particularly constitutional and Colonial 1688-1908.
18.—Special period.

COUNTY SECONDARY SCHOOLS—FULHAM.

Form I.—Stories from Roman history and early English history.
Form II.—Stories from English and European history—chiefly biographical.
Form Upper II.—Outline of English history to 1485.
Form IIIb.—Outlines of English history from 1485 onwards.
Form IIIa.—Outlines of Greek History *or* outlines of Roman history.
Lower IV Forms (parallel).—*The Tudor Period of English History.* Special aspect (*a*) The Renaissance; (*b*) The Reformation. The counter Reformation; (*c*) England in relation to the chief European States. Consolidation —colonization and discovery, etc.
Upper IV Forms (parallel).—*The Stuart Period of English History.* Special aspect—Constitutional development and experiment.
Lower V Forms (parallel).—*English History* 1685-1742. Special aspects—The struggle for Colonial supremacy, constitutional development. (A good deal of European history introduced.)
Upper V Forms (parallel).—*English History* 1742-1815. Special aspect—The struggle with France for Colonial supremacy.
Lower VI Forms.—*Modern Period of English History* and *General Revision of English History* (unless interfered with by examination syllabus).
Form VI.—*Period of European History either* fall of Roman empire and settlement of modern European states *or* Europe since 1815 *or* classical history (if specializing in classics) *or* any subject set for London intermediate arts or university scholarships.

LIVERPOOL HIGH SCHOOL.

Form.	Age.	
I	8.	Stories of all nations.
IIb	9.	Stories from English history up to 1399 (mostly biographical).

Form.	Age.	
IIa	10.	Stories from English history 1399 to 1660 (mostly biographical).
IIIb	11.	English history 1660—present day, almost entirely devoted to the story of the making of the British empire.
IIIa	12.	Greek and Roman history. (Latin is begun in this form.)
IVb	13.	European history. Wandering of the nations —1453.
IVa	14.	European history—1453 to present day.
Vb	15.	English history 1485 to 1688.
Va	16.	English history, 1688-1837.
VI	17-19.	(1) Revision of English history for matriculation. (2) Special periods for O. and C. higher certificate, Cambridge higher local, London intermediate, university scholarships. (3) Modern events, political and constitutional, are treated in the weekly essay-lesson given by the head mistress, and fortnightly in the Form debates (out of school hours).

HISTORY SCHEME. OXFORD HIGH SCHOOL.

Form I, Lower II.—Stories from English and ancient history.

Form II, Lower III, Upper III.—A three years' course of outlines of English history, from 55 B.C. to about A.D. 1815.

Form Lower IV, Upper IV.—A two years' course of European history from A.D. 476 to 1871, with occasional excursions into English history where English history is specially concerned with the continent, e.g. the Northmen and Danes in England; the part taken by England in the Crusades; results of the Hundred Years' War on English history.

Form Lower V, Upper V, Lower VI.—English history. In these Forms the period set for the higher certificate is taken, so that three quarters of English history (to 1837) will be learned in detail in the three years.

GODOLPHIN SCHOOL, SALISBURY.

Form II, III, IVb.—English history 1689-1901, 2 lessons; 1 discussion.

Form IVa.—English history 1714-1901, 2 lessons.
Special IV.—English history 1689-1901, 2 lessons. Roman history, 2 lessons; 1 discussion.
Lower V.—English history 1714-1901, 2 lessons.
Special V.—English history 1714-1901, 2 lessons. Roman history, 1 lesson; 1 discussion.
Upper Vb. — English history 1714-1837, outlines; 1793-1815, special period.
Upper Va.—English history 1714-1901, 2 lessons.
Special VI. — English history 1689-1820. Indian history, 1756-1857.

The discussions deal with social and political problems, the privileges and responsibilities of citizens, the characteristics of our own constitution.

CHAPTER VIII.

MODERN LANGUAGES.

IN a short paper which is to be included in a book containing articles on the various branches of study and on the various aspects of life in Girls' Secondary Schools, it is impossible to treat adequately the comprehensive and much-debated subject of modern languages, and in the following remarks, which are partly based on the valuable information I have received from many schools, I have only been able to consider briefly some of the knotty questions which exercise the minds of educational experts, and to touch on some of the ideas and methods which are ventilated and discussed in detail in such papers as those issued by the Modern Languages Association.

Aim, selection, order, method are all questions of prime importance, and as the consideration of one necessarily involves the consideration of the others, it is almost impossible to treat the subject really systematically.

Though the question of method naturally monopolizes the greater part of a discussion on the teaching of modern languages, the aim or main object of that teaching must be of the first importance, in that it is bound to affect the method.

Aim.—The many differences of opinion on this matter practically resolve themselves into the following crucial question: Is the teaching to tend mainly to the acquirement and appreciation of language or of literature? Of

course the knowledge of the latter must include a considerable knowledge of the former, but if the study of foreign literature is to be the ultimate object of a modern languages scheme, then there is no doubt that to some extent the study of language must be diminished in the last year or years of school life. In other words, a girl who devotes some time to foreign literature may not reach as high a standard in her written prose, or in her knowledge of historical grammar, as the girl who devotes most of her time to language and style, though I think there is much truth in the words of M. Leon Delbos: "Those who speak a modern language best invariably possess a good literary knowledge of it". At any rate those who possess a good literary knowledge of a language invariably appreciate it the most, even if they do not speak and write it with the greatest facility and elegance, and is not appreciation the greatest stimulus to further and independent study?

It should be mentioned here that I am treating this question of the aim of modern languages teaching from the point of view of the normal girl (not the specialist), who leaves school at the age of eighteen or nineteen, having passed two or three years in the VIth Form. I exclude the specialist in this discussion, as it stands to reason that she should be able to devote sufficient time to Modern Languages to reach a high standard both in language (including historical grammar) and in literature. It must also be acknowledged from the first that it is not practicable to make the study of foreign literature the ultimate aim of modern language teaching in schools, where the leaving age is sixteen; the scheme in this case must necessarily be on somewhat different lines, as the normal girl of sixteen is not ready for foreign literature. I am therefore considering the most educational

lines and the most stimulating principles on which a scheme may be based, so that the ordinary girl who devotes a suitable proportion of time to French or German, or to both, in the highest form for about two years may feel that she leaves school with an interest in a study which may grow and develop in after-life.

It is from this point of view that I would urge that the study of foreign languages is of greater educational value if it definitely tends towards some regular study of literature in the senior forms; and it is interesting to note that out of the twenty-three schemes submitted for the purposes of this paper, thirteen make provision, in a greater or lesser degree, in the highest division or divisions, though it is not always possible to judge whether the work in this branch may be principally limited to pupils who intend to specialize in modern languages. However, I think there is no doubt that the study of foreign literature is growing, and those who teach it would, I am sure, agree in acknowledging that a new stimulus is almost invariably given to language work by the introduction of the elder girls to fields of literature that are perfectly new to them, with unexpected points of view and fresh aspects of a nation's ideals, and though one acknowledges from the first that a short course is quite inadequate in itself, still there can be no doubt that by such a course the taste has often been stimulated and the energy aroused, so that, after leaving school, girls have frequently been led, not only to carry on further reading, but also to travel abroad and so to gain first-hand knowledge, both appreciative and sympathetic, of the manners, customs, history, and ideals of other nations.

I urge, therefore, that the study of foreign literature should be the ultimate aim, which we should bear in view,

when we draw up the modern languages scheme of a school, but from the first in drawing up this scheme, we must be ready to acknowledge certain difficulties and to admit certain limitations, and for this reason the following points should be recognized and emphasized.

1. As the object of the inclusion of foreign literature in the modern languages scheme of a school is to arouse and to stimulate a taste for further study, we must be careful to avoid the "dry bones" of literature; in other words, in view of the short time allotted to the subject the scheme cannot be comprehensive; more interest is aroused by a somewhat detailed study of a comparatively short period than by a bird's-eye view of the whole, and yet one must not neglect the latter entirely, as in order to enable girls to gain an intelligent conception of the thoughts of a nation, it is wise to insist on some of the salient features of the literature of a country, as it develops from century to century. Landmarks are necessary to guide girls in their reading after leaving school, but the power to appreciate the thoughts and ideals of writers or of a school of writers in a certain period is of far greater importance, and must on no account be sacrificed to a knowledge of the history of literature.

2. The ideal scheme must to some extent give way to the requirements of examinations and of set periods, and I think that once it is admitted that we aim at arousing interest rather than at securing knowledge, the limitations set by examinations become far less chafing. They may even be beneficial, for the teacher is occasionally led into tracks that have not interested her very much hitherto, but which, in justice to her pupils, she feels bound to approach with an open mind, and, speaking from personal experience, I think I might almost say that the requirements of examinations sometimes open

up to the teacher new ground which bears unexpected fruits.

3. As a general rule all teaching of foreign literature should be carried on in the foreign tongue for two reasons :—

(*a*) The pupils enter far more thoroughly into the life and thoughts of the nation they are trying to understand, if these thoughts are transmitted to them through the medium of expression used by that nation.

(*b*) The teacher kills two birds with one stone, for the study of literature is going on hand in hand with that of language.

4. Private reading should be a very great factor in these last years of the study of modern languages at school; for this purpose a well-stocked library is essential, and it is often one of the most difficult tasks of the modern languages teacher to supervise the provision of suitable representative library books, which, when possible, should be complete editions.[1]

Selection.—We now pass to the second question, which must precede that of method, namely, the *selection of languages*, a much-disputed point. There are convinced champions on both sides—the two-language champions and the three-language champions. Again, I speak of the secondary school with the later leaving age;[2] and I should like it to be understood that it is impossible to draw a hard-and-fast line in the matter of selection. For instance, girls may enter a school that provides for three languages, who from delicate health or from want of

[1] In some cases, however, it is advisable to admit into the library shortened and well-edited school texts, when for various reasons the complete editions are not suitable.

[2] When the normal leaving age of the school is sixteen, two languages at the most should be studied, and in some cases it may be even advisable to concentrate on one, as the capacity for language up to sixteen is proportionately very much less than between sixteen and eighteen.

ability are certainly most advisedly limited to two or even to one language other than the mother-tongue. In the matter of language teaching girls must be treated individually, in view of their varied capacity and of their different requirements, and yet there can be a general scheme which the normal girl follows, and the question is: Shall the normal girl learn two or three languages in addition to her own? The champions of the first principle have on their side undoubtedly weighty arguments of a twofold nature. On the one hand the ordinary English girl does not really know her own mother-tongue, and her knowledge of general history is often very inadequate; on the other hand they offer a plea for the foreign language itself: If a language is to be well learnt, many periods a week should be devoted to it, and as more than a certain amount of time cannot be spared, the number of languages to be learnt should be limited to two. The two-language champions urge in addition that the ordinary child's brain is incapable of holding more than two languages.

The three-language champions have, however, equally weighty arguments on their side. Their first takes the form of a question which may perhaps be considered one of expediency, but it is nevertheless one of vital importance: Granting that French, German, and Latin are the three languages from which two are to be selected, which is the one that can be omitted? The study of French is not only necessary, but most educational to the ordinary English mind on account of its precision, daintiness, and elegance; German (even apart from its literary value) is almost essential in advanced study of any kind, whether classics, science, or history; and Latin, whatever may be said of it by its detractors, is the basis of the greater part of the study of language, including that of the mother

tongue. It is, indeed, impossible to explain or smooth away many of the apparent difficulties of French accidence and syntax, if the teacher cannot base her explanations on some knowledge of Latin among her pupils. Again, unless Latin is known, the teacher is seriously hampered in enlarging the vocabulary of her pupils, and without Latin it is quite impossible for the girl who is specializing to understand even the elements of historical grammar. These are, I think, arguments which may weigh with those who conscientiously deny that the study of Latin affords mental training of a very special kind.

While the three-language champions offer to their opponents an argument which is based mainly on expediency, they claim also that, judging from experience, girls who learn two languages do not get much further in them than those who learn three, that the normal girl's brain, which can hold two languages, can with almost equal ease hold three, and that in any case the advantage of attaining a certain standard in both German and Latin outweighs the disadvantage of a possibly slighter degree of efficiency in one of the two; and in answer to the first argument of their opponents they urge that the study of foreign languages leads to a greater appreciation and knowledge of the mother tongue, and that an acquaintance with general history is the natural outcome of the study of French and German. Such being the case, though I would make no hard-and-fast rule, and though I readily agree and would even urge that one of the languages may often be dropped for special reasons, when a girl reaches the Sixth Form, or when a certain standard of efficiency has been attained, I feel that it is unpractical not to make provision for the teaching of the three languages simultaneously in the upper middle forms of girls' schools, so that the girls may get a start in Latin,

French, and German, which, provided the teaching is sound, may enable the majority to follow up any or all of them to a more advanced stage.

Order.—In schools where the study of three foreign languages forms part of the normal scheme, the next question to arise is naturally that of *order*. In the article devoted to "Modern Languages" in the last issue of "Work and Play in Girls' Schools," the writer recommended the following order: French, German, Latin. Having had experience of the two systems, I feel personally in favour of reversing the two last, and of making French, Latin, German the order in which the languages are learnt in schools.

There is probably no doubt that French is the most suitable language to be placed first. In a simple oral form it can be begun very early; the order of words is generally similar in French and English, and except in the verbs it is fortunately comparatively free from sounding terminations; also it is well to accustom the English mouth to the difficulties of French pronunciation as soon as possible. (The question of age will be treated later.)

There is therefore hardly any difference of opinion until we come to the second language—German or Latin. In some ways it is the third language which has the advantage over the second, for though it must lose somewhat in vocabulary and in facility, it gains from the greater intelligence and possibly greater enthusiasm with which it is begun. At the same time it is a very real benefit to the study of both English and French that the rudiments of Latin should be known early: also there is a satisfactory fixity about the grammar, syntax and vocabulary of a dead language, which appeals to the commonsense of a girl of twelve or thirteen. The placing of an ancient language like Latin between two modern lan-

guages such as French and German introduces also an element or variety into the curriculum, which can also affect the appreciation of both history and literature. For these and other reasons, though the question is not one of supreme importance, I feel that the order, French, Latin, German, is preferable to that of French, German, Latin, especially as the next language, if in a few cases there has to be a fourth, is generally Greek, and it is perhaps advisable for the assimilation of languages that there should be as long a period as possible between the times at which the two classical languages are begun, while the same principle would naturally apply to the two modern languages.

Age.—Where three languages are learnt, the first language, judging from the schemes, seems to be begun as early as possible, often in the preparatory department, the second language at the age of twelve or thirteen, and the third language at the age of fourteen or fifteen. There are, however, schools which claim that better educational results are attained if the first foreign language (French) is begun later, and one modern language specialist writes that she finds it much better to teach nothing but the mother-tongue until the age of thirteen or fourteen, and that then the progress is extraordinarily rapid. This method could only be adopted where not more that *one* language other than English is taught, and in any case, while admitting that nearly every subject is learnt more rapidly if it is begun when the intelligence is more fully awakened, we must guard against the danger of overstrain by the introduction of too many new subjects in the already heavily laden curriculum of the middle school. It seems, therefore, advisable to admit in the early stages new subjects that can be learnt intelligently, if not equally rapidly.

In connexion with some of the information I have received I should like to add that some schools arrange for all girls to have a chance of learning the three languages, but that more than two are never learnt at the same time, or nearly all the time is devoted to two languages, while the third is kept up by means of a single reading lesson. This plan would work satisfactorily, except in the case of girls whose tastes develop or whose opportunities for study at the University arise late in school life, after they have been obliged to make their choice of languages, when want of efficiency in the one that has been merely "kept up" may seriously hamper the course of study they wish to adopt.

Method.—Under this heading may be included the various branches of modern language teaching, and the way in which these branches may be taught, but, as space is limited, it will be only possible to treat the subject on very broad lines, and moreover it is generally best for the specialist in modern languages to make out an original scheme, provided always certain general principles be followed. For the present purpose modern language work can be divided into the following three groups:—

1. Oral work.
2. Written work.
3. Reading, including literature.

The methods adopted in different schools may also be divided into three groups:—

1. The old method.
2. The reform method.
3. The modified reform method.

First, it may be acknowledged that the gifted and enthusiastic teacher who follows confidently any of these

methods can arrive at very satisfactory results with pupils of average ability, but the question we have to decide is whether, in the hands of the normal teacher, method 1, 2, or 3 produces the best results with the normal child under normal conditions.[1] We want to adopt a method which will secure satisfactory proficiency in *oral* work (including pronunciation, intonation, and facility of expression), in *written* work (including accurate and idiomatic use of the language on paper), and in *reading* (including comprehension and appreciation of both poetry and prose read in the language, the power to render the sense accurately and gracefully in the mother-tongue, and also the study of literature, though this is restricted to the later years of school life). Which of the three methods is most likely to secure well-balanced proficiency in all three branches of modern language work? The old method (1) based principally on grammar and translation was apt to neglect the oral work and rapid simple reading, and it thereby failed to give the pupil the power to speak or to read the foreign language with ease; the reform method (2) has been inclined to fail in the middle section, namely in the power to write accurately, though of course there have been many brilliant exceptions to the tendency to fail in this respect. For some years the exponents of the reform method have waged a most successful war, and the supporters of the antiquated methods have in most cases surrendered, but if we are to judge from the remarks of many experienced teachers, the results of the adoption of the reform method have not been as completely satisfactory as was anticipated, and there is no doubt a tendency for the pendulum to

[1] In considering the question of method it is advisable for the moment to think principally of French, as it is the modern language universally taught in England for the greater part of school life.

swing back, that is, for teachers to modify the reform method by making it rather more practical. The main argument on which the reform method is based, namely, that a child should learn a foreign language as it learns its mother-tongue, never seems to me quite sound, in that the conditions are not in any way similar. A child hears its mother-tongue all day long and all around, but, unless a child has a foreign nurse or a foreign governess, it would probably only have a French lesson once a day, even in the most ideal school conditions, though of course further steps are often taken to secure conversational facilities. Further, reform teachers have been apt to construct schemes suitable for ideal conditions, and the modified reformers have felt bound to recognize that rigid adherence to these schemes has not always been fraught with success, since ideal conditions cannot obtain in schools. For instance (1) all children do not pass through the school, starting from the class in which French is begun; (2) one French lesson a day is not possible, at any rate in many girls' day schools, where the morning session only is compulsory; (3) all the girls in one division, even with the most careful classification, are not of equal ability; (4) schools have not a sufficiently large staff of modern language specialists for the number of girls in the divisions to be limited to ten or twelve.

As the above facts have to be accepted, many teachers have arrived at the conclusion that it is generally unwise, if not almost impossible, to adopt the reform method strictly, and that frequently in the same school in different years and in different classes modifications should be allowed, so that while nearly all admit that fundamentally the principles of the reform method are sound, there seems to be a strong feeling that more *systematic grammar* is required than is advocated by this system, and that at

all costs time must not be wasted, nor danger of imperfect comprehension of important subject-matter be incurred by too rigid insistence on the principle of allowing the use of the foreign tongue *only* in the class-room.

The experience of several years has taught many of us that children need a good deal of formal grammar (if possible written in the foreign language), and that there frequently comes a time when it is even advisable to give and require explanations of syntactical rules in English, especially when one is dealing for the first time with the difficult questions of pronouns and pronominal adjectives. Above all, most children prefer to have a solid grip of grammatical facts, and this, if it is to be lasting, cannot be gained by ear only; the facts must be seen (when possible in tabular form), thoroughly understood, and then most carefully learnt. I do not mean to imply that the reform method pays little attention to grammar, but it approaches it in a different way, and I have not yet found the reform method grammar book which can be readily used by the elder girl as a book of reference, when she feels uncertain about some rule in her prose composition.

There are two other dangers frequently noticed in connexion with the strict adoption of the reform method. One is that, if a class is at all uneven, either the brighter children will find things dull, or the slower children will feel muddled and vague; the other is that children taught by this method tend to be less enterprising and are apt to be less adaptable, if they find themselves face to face with work to which they are not accustomed. I cannot speak of the second danger from personal experience, but if it is so, it may be due to the fact that in the early stages their preparation is generally so entirely based on the class lesson that the ingenuity required to

deal without help with difficulties that are met for the first time is allowed to lie dormant.

To sum up the situation from the trend of the above remarks, it may be concluded that in view of the conditions of modern language teaching there is a tendency to adopt a modified reform method, though all teachers are in favour of using the foreign tongue as much as possible on two conditions :—

1. That time is not unnecessarily wasted.
2. That accurate knowledge of grammar is not sacrificed.

Lastly, we take briefly the three headings under which for the sake of convenience the various branches of modern language teaching have been placed, though it will be readily understood that there is necessarily much overlapping.

1. *Oral Work.*—In nearly all schools where French is begun in the lowest Forms the work is almost entirely oral, and is frequently helped by means of pictures, toy-sets, little poems and songs; very soon it is advisable to introduce oral verb drill with frequent illustration by the use of complete sentences.

Later, when the classes are busy with grammar, it is not so easy to introduce as much oral work, but a good deal may be done in class, if in the early stages the method has been sound, by the learning of poetry and prose by heart, by the oral reproduction of short stories or of the subject-matter of the reading-book, and among the senior girls by discussions on literary subjects, and in *smaller divisions* (possibly optional) by the conversation class when all the time can be devoted to conversation on ordinary topics or occasionally to the getting up of short plays. Among elder girls, too, many incidental aids to the improvement of the oral work may be adopted,

such as French debates, French discussions or lectures, French tea-parties, etc., but it must be acknowledged that it is those who are already keen who benefit by these methods, and that all who learn French in the school are not necessarily affected by them. In connexion with the oral work it would be advisable to mention the present Government system of the French "Assistante," by which a young French teacher can enter an English school for one year (the Government paying part of the cost of her board and lodging) and give help for a certain number of hours a week, while she learns as much English as she can from the school. The use that the school may make of her is distinctly limited by the Government, but at the same time it is an advantage to have some one fresh every year, who has not become anglicized, and who, if she is intelligent, can interest the girls in modern French topics of various kinds. It is too early to express a positive opinion on the advantages of the system; so much depends on the personality of the "Assistante," for the choice of whom the headmistress is not as responsible as in the case of her staff, but it is possible that the venture may develop into something that may be most useful and stimulating to the oral side of modern language teaching in England.[1]

The debatable question of the use of *phonetics* in the technical sense comes under the heading of "oral work". As a means of sharpening the ear and facilitating the action of the mouth they are most helpful, but, with the limited number of hours at our disposal, I do not think it is wise to devote many of them to this study in the higher classes, though a course at one period in the junior divisions is amply repaid later among the senior

[1] The Government provides German as well as French "Assistantes".

girls from the point of view of speaking, reading, and dictation.

While the study of phonetics helps in the pronunciation of sounds, the *phonograph* must be the best means of acquiring that most difficult thing in oral work—French intonation. Before long there will probably be a great advance in the practicability, efficiency, and cheapness of this instrument, and we may then hope that it will be more generally introduced into schools. There are doubtless many other ways of encouraging oral work well known to those who have studied the principles of the reform method. I have only been able to offer a few suggestions, and I do not claim in any way to have covered the ground.

2. *Written Work.*—Under this heading the study of *systematic grammar* is included, as written work is the greatest test of the thoroughness and accuracy of this knowledge, without which no high standard of scholarship can be attained. Schools differ as to the age when written work should be begun, and in many there is a feeling that it is harmful in the early stages, but I think no hard-and-fast rule need be laid down. A good deal depends on the method of the individual teacher and on the special weakness or strength of the class with which she has to deal. Exercises in French, with a gap left for the insertion of the word in special reference to the grammar learnt, and free composition of a simple type (such as the reproduction of stories) are the most beneficial forms of written work, especially in the early stages, but later I feel convinced that a limited amount of translation from English into the foreign tongue, either in the form of sentences or continuous prose, is most valuable for the following reasons :—

1. Grammatical accuracy is ensured, when for the moment the pupil is depending more on her intelligence than on her ear, and the teacher can more freely frame her sentences to meet the needs of the class.

2. The vocabulary is enlarged, for if the composition is free, there must be a tendency on the part of the pupils to use the simplest words and expressions which they already know.

3. The older pupil is taught to use the dictionary with intelligence, and in so doing must assimilate a certain amount of useful knowledge.

4. Senior girls learn to tackle a really difficult side of their work, which calls forth all their powers, and which makes them realize the nicety and individuality both of English and of the foreign tongue.

In short, one may say that the written work can be divided into five classes:—

(*a*) Free composition (letters, stories, and essays (in the case of senior girls)).

(*b*) Reproduction of a story told in the language.

(*c*) Translation from one language into another in the form of continuous prose. (Regularly done only at a later stage.)

(*d*) Written illustrations of grammatical rules in the form of sentences with gaps, of complete original sentences, or more rarely of translations of sentences set by the teacher.

(*e*) Dictation, both prepared and unprepared, which is admittedly such a valuable exercise that its claims need not be urged.

Incidentally, facility in writing may be fostered by the use of the opportunities that now exist for international correspondence.

As the study of grammar has been included under the heading of written work, though it overlaps both the other divisions, mention should be made here of the two methods of teaching it:—

(*a*) By giving a rule and then an illustration.

(*b*) By giving an example and then deducing a rule.

The latter is generally much the more satisfactory

method, and can to a great extent, though not exclusively, be carried out in the reading lesson. Sometimes, however, in order to save time, it may be advisable to adopt the former method, and both are educational, as they require mental effort on the part of the pupil.

As a general scheme for the study of grammar the following may be followed:—

Very little formal grammar, except the simpler parts of the verbs and terminations of nouns, should be learnt until the age of ten or eleven.

Between this age and that of sixteen or seventeen the whole of the important part of French accidence and syntax should gradually be covered by a system of expansion or elaboration. The use of pronominal adjectives and of pronouns, especially with regard to the position of the latter, is one of the main difficulties of middle Forms, particularly when girls enter the school late. I have found that the denser girls are often helped in this matter by a device which resembles a letter game. They are told to take certain words out of a box and place them in the right order on their desks. For some reason it is much easier for them to place than to write correctly such a sentence as: "Je ne lui en ai pas parlé" or "Ne le leur avez-vous pas donné?" It can be seen that with a simple box of words many different combinations can be made, and, after the first difficulty has been overcome, pupils can be induced to frame their sentences very freely by the introduction of words not contained in their boxes.

Among the senior girls of the highest division or divisions, the grammatical work should be mainly revision, with the introduction, if possible, of systematic historical grammar, for which the way should have been prepared by frequent reference to it in the earlier stages,

when pupils who learn Latin can readily understand the reason of apparent exceptions, which otherwise might remain inexplicable difficulties.

3. *Reading*.—This section is closely interwoven with the two preceding ones. As has been said, both oral and written work (including grammar) are often most satisfactorily based on the reading-book, but the latter has an intrinsic value of its own, and this must not be neglected. If too much time is spent on reproducing orally the subject-matter of the book, or on extracting grammatical rules, or on making it the groundwork of dictation, the chief charm of the book may be lost to the child, namely, the desire to read and "to get on with the story," which in itself contains the germ of what should develop into a taste for literature—the ultimate aim of modern language teaching. In many ways the reading lesson is the most difficult form of class teaching. The teacher has to ensure that the work is understood and has been properly prepared; she wants to admit the mother-tongue as little as possible into the lesson, and to teach the class to read the foreign book rapidly in the foreign language, and yet she must avoid all slovenly and unintelligent semi-comprehension of the subject-matter of the book. Perhaps the best way to attain these varied aims is to adopt an infinite variety of methods, so that the class may never know the way in which the lesson may be taken and must thus be prepared for all contingencies. There is, however, a special difficulty in connexion with the reading lesson, namely, that children who are otherwise of fairly equal ability, are apt to differ very considerably in their power of understanding a French text; consequently a certain amount of latitude as to the amount prepared must be frequently allowed, while the brighter children may be encouraged by earning the privilege

of being allowed to use an extra book for private reading.

Under the heading of reading comes the disputed question of *translation*, one of the greatest delights of real scholars. Ardent supporters of the reform method generally oust translation completely in the earlier stages, regarding its introduction as directly harmful, but again a growing tendency is noticeable in favour of its adoption as a means of attaining a scholarly attitude of mind, though here again, as in the case of the translation of English into French, the use of it is only intermittent, except among the advanced pupils, where the mental exercise of finding the most accurate and yet artistic equivalent is acknowledged to be beneficial both to the mother-tongue and to the foreign-tongue. As in the case of the grammatical scheme, certain broad lines may be followed in constructing the scheme for reading:—

Reading of simple texts with only very occasional translation until the age of twelve or thirteen.

Reading of two books, a simple one for rapid reading and a more difficult one for careful study, with frequent translation (sometimes "unseen") up to the age of sixteen or seventeen.

In the highest divisions the method must depend on the books studied: for instance, constant translation is advisable in the case of seventeenth-century texts to arrive at the exact meaning of the passages, but is often unnecessary when the girls are reading works of the nineteenth century. In any case there should be frequent practice in the translation of difficult passages for the sake of scholarly exactness.

Most schools make an effort to encourage private reading. This is comparatively easy in the senior divisions where literature is regularly studied, but it is difficult to

organize in the larger divisions below the VIth, though much more can be done now that publishers are bringing out cheap editions, slightly modified to meet the needs of schools.

Incidentally, the range of literature may be widened by the formation of reading circles, which undertake to read plays in parts, and the knowledge of current topics in France may be encouraged by the introduction of suitable illustrated newspapers, which can also form the basis of some of the work in the conversation classes.

In this rapid survey of the teaching of the different sections of French much has necessarily been omitted, and only a very general outline has been given. As has been already said, it seemed advisable for various reasons in the limited space of a short paper to restrict the remarks on method to the teaching of French. It would appear, moreover, that most schools adopt a similar method in the teaching of German, though, as the latter is begun at a more mature age and has a more complicated accidence, more time is generally given to grammar, and rather less to oral work. As a rule it would seem that German in the highest form, though taught for a shorter period, can compare very favourably with French, except with regard to the vocabulary, which naturally suffers. This comparatively rapid advance in German is no doubt mainly due to the previous training the pupil has had in other languages, and to the greater intelligence which she can consequently bring to bear on her study of German.

In conclusion I should like to add: It is essential to make lessons on modern languages of living interest, for a dead-alive French or German lesson is worse than useless, but it is not necessary on that account to make them too easy or to smooth away every difficulty. As

a rule girls will tackle a really hard syntactical rule with plenty of spirit and courage; they prefer to have to work hard, and probably one of the greatest problems that the modern language teacher has to face is to give the clever girls enough to stimulate their interest and their energy and yet not to let the slower girls feel for a moment that French is for them a height they cannot hope to scale. It is wise also to bear in mind the far-reaching influence of sound intelligent modern language teaching. The learning of foreign languages is not only intensely useful for international intercourse, it is not only educational from the way it exercises the brain and arouses the interest, but, if it includes the study of literature, history, and customs, it becomes also a great factor in bringing about a better understanding of the ideals and aspirations of other nations, and, by a widening of the intellectual sphere and by means of comparison, it often fosters a still greater appreciation of and love for the language and literature of one's native land.

LUCY A. LOWE.

CHAPTER IX.

CLASSICS.

THE present position of the study of classical languages in girls' schools illustrates with great clearness the variety of considerations which governs their entire curricula. The leaders of the movement for the higher education of women were not themselves agreed about principles. There was an influential minority who believed that certain modifications should be made before the education commonly given to boys should be adapted to the needs of girls. In characteristic English fashion a working compromise was allowed to shape itself. Those who led the movement in the Universities were firm that no difference of standard or even of subject should be accepted. Those who created the schools for girls admitted a number of subjects in addition to those commonly studied in schools for boys. Latin and Greek were, therefore, admitted to the curriculum, but in competition with so many other subjects that at the present moment Greek is taught to a very few, and Latin is granted a good deal less than half the time allotted to it in the older public schools. From the returns received it appears that Greek is taught in Upper Forms only, and the teaching is generally individual teaching or coaching. Where it is not read for a scholarship it seems to be regularly taken only so far as is required for Responsions or for the previous examination. Latin is, indeed, a Form subject, beginning in many schools with girls of

twelve or thirteen and going on throughout the rest of the school life; but as it is very often an alternative with German, many girls have no opportunity of taking it. Very few schools begin Latin as late as fourteen, though there are two notable exceptions. Most schools arrange for three lessons a week, none for less. One school has as many as five lessons. Satisfactory progress can hardly be expected with less than four lessons.

There is ample evidence that the opinion of teachers is decidedly in favour of beginning Latin early. French is everywhere first in the field, but French is taught at the beginning, and in many schools throughout, largely by conversational methods. Latin is, on the other hand, recognized as the best medium in which to convey early notions of grammatical structure. Its precision and its comparative freedom from exception make it possible for girls of average intelligence to learn its rules of syntax long before they can profitably study the systematic grammar of English or French. An interesting experiment is being made at the Wallasey High School, where a special English grammar course is arranged for the year preceding Latin, as a preparation for it.

The Moseley Commission sent several teachers of classics from American schools to investigate the condition of classical teaching in this country. Their investigations appear to show that in English schools for girls a wider range of authors is read than in American schools, though the amount read is far less. A girl who has passed through a secondary school of good standing has, with us, learnt Latin for five or six years. During that time she has read at least a book of Cæsar, one or two of Virgil, a little Horace, something of Cicero, and selections or part of a book of Livy. In several schools the catalogue would be considerably lengthened.

All teachers have watched with interest the rise and progress of the revolution in the method of teaching modern languages. There is no evidence of any serious attempt to teach Latin by the direct method, though experiments are being made in oral composition, chiefly by means of question and answer, and the results are encouraging. Miss Limebeer of Wallasey High School says that there is much useless overstrain in a too conscientious use of the parallel English-Latin exercises: there is certainly waste of time. Teachers are now basing systematic grammar mainly upon the book that is being read, and they are thus far in sympathy with the direct method; but, upon the whole, such improvements as have taken place in the teaching of Latin in girls' schools have followed on the old lines. Classical reading is made more interesting by the free use of maps and plans, pictures and models. The matter of the book read is considered worthy of comment, as well as the grammar and style. Girls are easily interested in Cæsar and in Virgil: only the more mature minds of our highest Forms really enjoy Horace. Miss Gavin of the Wimbledon High School has found "The Story of the Æneid" (Blackie) a very valuable introduction to Virgil. The passages selected in the book are complete in themselves and the links form them into a whole. But whether select passages or entire books are read, the tendency of teachers is to lay stress upon translation, and to see that their pupils have come upon all ordinary difficulties of syntax in Latin authors before they attempt to solve such difficulties in writing Latin for themselves. Thus "Oratio Obliqua" loses its terrors if it first appears in its proper setting. As a part of the narrative it crops up again and again when the interest of the Form is probably centred in the wiliness of the plausible Indutiomarus or

the appeal of the beleaguered commandant. The day arrives when North and Hillard offer to introduce a distinguished stranger to the girls: with eager pleasure they reply, "We have met Oratio Obliqua before".

The most harassing problem which classical teachers have to face is concerned with those girls who leave school at sixteen, having taken Latin for two or three years only. How shall we give them something that will prove of permanent value? Should the time be devoted largely to translation, so that they will at least have a vocabulary that will help them with some other language? Should we lay stress upon grammar, so that they may readily understand the structure of another language? Should we endeavour to give at least a glimpse of the beauty and strength of the literature?

These questions will be answered by different teachers in different ways. Perhaps the wisest are those who attempt least and make their Latin lessons what all Latin lessons should be, models of thoroughness. If a girl leaves school knowing only a few hundred Latin words she may know them so as to throw light on every French sentence she reads. If but a few great principles of grammar have entered into her mind she will necessarily use her mother tongue with all the greater propriety. But if an echo comes back here and there from school-days that were all too short, it will surely not be wasted time that has saved

ripæ ulterioris amore

from becoming a mere Latin tag quoted by authors for the look of the thing. Half-baked dough is of no use to anyone: but to a hungry man half a loaf is a banquet, and if he is starving a crumb is not despised.

F. R. GRAY.

CHAPTER X.

MATHEMATICS.

Need for Mathematics.—In considering the question of mathematical teaching in schools, the distinction between the needs of boys and of girls is not, as a rule, sufficiently considered: much that is written on the subject may apply to the teaching of boys, who often need to acquire mathematical facts young, but it is not applicable to girls, since for them it is the training in reasoning that is required, not so much the acquisition of mathematical facts. Girls need mathematical training to promote accuracy of manipulation and accuracy of thought as well as reasoning power, and if these ends are not gained, teaching of mathematics is a waste of time which would be better spent on other subjects. Mathematics badly taught is an absolute waste of time, but well taught it gives a training that can be gained from no other subject.

In the common occurrences of daily life, accuracy and reasoning power are qualities which are certainly wanting in very many women. They cannot give a lucid direction, an accurate description, or a clear and logical explanation. These are the people who really cannot see that if A is greater than B and B is greater than C, then A must be greater than C. If such a woman enters into an argument and she is made to see each step and is convinced of its truth, still at the end she will repeat "Yes, but I don't see why," and will hark back to her preconceived conclusion.

Her reasoning power is entirely undeveloped, she does not know that an inaccurate statement gives a totally different aspect to a question. A careful course of training in elementary mathematics in youth will certainly tend to develop the dormant faculties of such persons. In all walks of life clear thinking is essential. From the beginning the child must be taught to connect cause and effect, and to realize the absolute inevitableness of consequences.

Mathematical training should therefore constitute an important part in a girl's education, because it supplies, as no other subject does, the need mentioned above; and also because in addition it develops a power of initiative (not usually inherent in a girl) by the working and thinking out alone of problems and riders. Modern methods are so designed that it is, or ought to be, impossible for the pupil now to shirk mental work which is not merely the reproduction of the statements of others.

Most girls have gained all the good they will get from mathematics when they have reached the standard of some preliminary examination for entrance to a university, i.e. when they have a good working knowledge of arithmetic and of algebra, including some acquaintance with logarithms and a facility in working problems, and can use the substance of Euclid Books I, II, III, IV, VI, and XI in solving riders: and at that stage girls may profitably drop all mathematical work, except those who show unusual mathematical ability, and wish to specialize. The very small percentage unable to reach this average standard should after one or two years of honest work be allowed to drop geometry and algebra as taught to the more intelligent pupils, and should, if possible, be given separate lessons which would include chiefly practical examples involving only enough theoretical work to make

these processes intelligible. Even the most unmathematical can be taught to do the mathematics needed in daily life, e.g. calculations that might come in household shopping ($3\frac{1}{2}$ yds. at 1s. $11\frac{3}{4}$d. a yd.; 2 lb. 6 oz. at 10d. a lb.) change from English money into foreign, etc. They could also acquire enough accuracy of manipulation to enable them e.g. to draft and cut out a garment to measurement.

From returns received from a large number of girls' secondary schools of various types, the following information with regard to the teaching has been drawn.

The amount of time given to mathematics is usually about three hours in school per week and one and a half hours homework under the age of thirteen or fourteen; above that age about four hours in school and two and a half hours preparation.

Arithmetic.—In arithmetic there are differences of opinion chiefly with regard to the time when decimals should be begun, and the value of contracted methods. In most schools decimals are begun with quite young children, i.e. about Form II, and this appears to be the logical place to introduce them, as an extension of work in notation. As regards approximations, and contracted methods, there is much difference of opinion, some teachers thinking they should not be taught, as work requiring these is better treated by logarithms, while others (with whom I cordially agree) consider them very useful as giving a proper appreciation of values. As a rule children are taught to multiply by the left-hand figure of the multiplier first, as this leads more naturally to the multiplication by decimals. In some schools decimalization of money, and reading of decimals of money to the nearest farthing, are used for working practice and other suitable sums.

There is a difference of opinion about including discount and compound interest in the arithmetic teaching. True discount is still taught by some, in spite of its lack of practical utility, and compound interest for two or three years is worked arithmetically; and it seems well that the pupils should understand what is meant by compound interest before they have a working knowledge of logarithms.

It is no longer necessary to spend a long time on working problems by arithmetic, since now all such problems can be more simply dealt with by algebra, and the pupil should be led to look upon mathematics as a whole, and to use any knowledge she has acquired to employ the best methods for solving any mathematical problem.

Geometry.—As a rule in girls' secondary schools it appears that theoretical geometry is begun in Forms where the age of girls is thirteen to fourteen; and practical geometry—comprising the use of mathematical instruments, measurements in metric scale, the measurement of angles, drawing to scale and simple construction—is generally taught in the previous Form with one lesson a week. In some cases practical geometry combined with handwork is continued from the kindergarten upwards, the purely oral and practical work gradually giving place to more advanced practical work combined with some theory. (In this connexion an interesting scheme of making mathematical figures by paperfolding, by models in cardboard, drawing with compasses, etc., has been received from the Walthamstow High School.)

At Kensington High School (and to a certain extent at Clapham) Boole curves are used in Form III as an introduction to mathematical ideas, stimulating the mathematical imagination prior to the formal treatment of the subject given later, the idea being that these curves

"answer the same purposes in mathematical work as early perceptions of flower life and growth fulfil with regard to the formal treatment of botany".

In the Fourth and Fifth Forms as a rule two geometry lessons of forty minutes to forty-five minutes are given in the week.

Most of the teachers have adopted more or less the suggestions in the Board of Education's memorandum on the teaching of geometry, and assume the geometrical facts embodied in Euclid I, 13, 14, 4, 8, 26, 27, 28, 29 without formal proof; many of these mistresses, however, remark that they have only adopted these methods recently, so that they cannot tell what will be the effect on the mathematical accuracy and ability of their pupils later on, compared with the results of the older methods in which deductive proofs were required.

Algebra.—Algebra is as a rule begun at the same stage as theoretical geometry, i.e. with girls of about thirteen to fourteen. Some begin with symbolical expression leading on to easy problems in simple equations; and addition, subtraction, etc., are taught as the need for them arises in the equations. The idea of keeping the balance in an equation is easily understood by a child, and hence she quickly sees what may be done to both sides of an equation without destroying the balance.

There is considerable difference of opinion on the educational value of graphs; some using them merely as illustrations, and others making much more extensive use of them. It appears that they are chiefly useful as illustrative of facts proved in geometry and algebra; and that time spent on them, further than this, could be better spent on pure algebra work, from a mathematical point of view, not to speak of the eye strain involved in extensive graph work.

Writer's Views.—It appears to me that the chief reason why Euclid's Elements fell into disrepute, and modern methods were adopted, was that the teaching of Euclid was so badly done, that pupils often learnt propositions by heart without understanding them, riders were rarely set, and when they were set were only done by a few picked children in the class. I imagine that it is impossible to teach the modern geometry quite as badly as Euclid was often taught, as it is more necessary to have teachers with some special knowledge of the subject, but that in the hands of a skilful teacher good mathematical training will be given whether she adopts the new methods or the old. In modern methods of teaching geometry there seems to be a great danger that accuracy will suffer, that pupils will argue in a circle, and that there will be a want of definiteness and sequence in geometrical knowledge. These dangers will have to be carefully guarded against. On the other hand, as much unnecessary matter is now omitted, it is easier for the pupil to get a general idea of the whole, and to classify the geometrical facts she needs. Formerly much time was wasted by the teacher's insisting on her pupils being able to write out every proposition before she went on to the next.

It is becoming very general now to make no attempt to teach beginners proofs of the propositions relating to angles at a point, congruent triangles, and parallel straight lines. Many children have no difficulty in grasping and remembering these fundamental facts, and a formal proof would add no further conviction. It certainly saves much time if after a thorough experimental verification of these propositions, the child goes on at once to the proof of riders founded upon them, and of the less obvious properties of plane figures.

It will be some time before we are able to judge whether these methods at the beginning of a child's geometrical instruction will have as good results as those which required all the proofs.

Deductive riders should be given from the outset, and these should be carefully graded, so that there can be no danger that it may be considered only possible for the clever girls to solve them; these stimulate girls' powers of initiative, and it is a real pleasure to them to feel that they have proved something entirely by themselves. Side by side with these should be given numerical examples which are very useful for testing the pupil's understanding and use of facts she has proved. If the pupil is required to make an accurate construction in solving a problem her success or failure in doing this will reveal to the teacher, more than anything else, how far the class has understood and remembered the solution.

Occasional expedients that have been found useful are to make the girls prove an easy rider or proposition without drawing a figure, telling them to visualize the figure of the proposition they are proving; and in doing problems to let a girl make the figure from a construction written down by another: this makes girls realize their omissions in a way that no amount of calling attention to them will do.

In all mathematical teaching (except to the very young) no long time should be spent in learning any single rule or proposition and in getting that perfect; when the pupil has worked a fair number of typical examples, she should go on to something fresh, the constant growth of mathematical knowledge and facility throwing light on what has been taught previously. Formerly much time was wasted, and interest and zest lost by the teacher's insisting on her pupil's being perfect

in every rule before she went on to the next. After the early stages in arithmetic, a rule has seldom to be taught directly, the idea has to be explained and the pupils will generally find out how to do examples on it. Often a child who will sit for hours doing more or less mechanical work is really brain-lazy, unless she is forced to think, and for this reason it is important as far as possible, except for the purpose of promoting mechanical accuracy, to avoid giving examples that are alike. Even the slightest change obliges the child to think out each problem separately.

In all mathematical work it is very good for children to have frequent practice in mental work, in which the calculation or proof has to be carried out without the aid of pencil and paper, or blackboard. Mental arithmetic not taught as a separate lesson, but introduced into the ordinary lesson, as opportunity arises, has a most stimulating effect on the children ; and the habit of calculating mentally makes for speed and accuracy in all their work.

It is often well to let the children, before working a sum, make rapid mental calculations to decide roughly on the answer they may expect, e.g. that 267 things at £2 5s. 3½d. each will cost about £600. They may also be shown how in some instances they can at once detect a mistake, e.g. that £3 4s. 9d. × 76 cannot possibly end with 6d.

Changes that might be made if there were no Examinations. If it were not that examinations have to be considered, there might be several modifications in the present mathematical schemes. Many useless kinds of examples in arithmetic might be omitted, e.g. such examples as "evaluate 8·5375 of a ton + 2325 cwt. etc."; elaborate simplification of fractions, etc. After the Fourth Form, regular arithmetic lessons might be given

up or reduced to a minimum, because at that stage algebra will give all the training and knowledge necessary; and most sums that may be required can be more neatly worked by algebra than by arithmetic.

Logarithms might be introduced and utilized as soon as the pupils are sufficiently advanced to understand the theory of indices: and trigonometry could be begun as soon as the pupils have some knowledge of the properties of similar triangles, so that applied mathematics could be begun at an earlier age. Also the elements of differential and integral calculus could be taught earlier, leaving more advanced algebra and trigonometry to a later stage.

All these, I think, would be changes for the better, but they are made impossible for the present by the exigencies of examinations.

H. M. SHELDON.

CHAPTER XI.

NATURAL SCIENCE.

STUDY of the natural science curricula in our schools reveals an ideal of educational achievement the unity of which is disguised by extent of subject-matter and by variety of method in approach. In particular this unity of ideal is just now obscured by the urgency of the practical interests which it subserves, in apparent conflict with the intellectual demand for systematic development in which it is rooted. Thus the dialectic uppermost for the moment in teachers' minds is between the claims of the practical and the logical interests. These two run the one against the other continually, with ups and downs for each, like rival parties in a closely-contested general election. In another region of discourse argument proceeds between the school teacher, immersed in the business of developing the average child's mind, and the university lecturer, concerned with the systematic—and convenient—development of the picked student's knowledge. Thus the atmosphere teems with inquiry and discussion; schemes of study abound, and criticisms of such schemes abound likewise. It is the object of this report to describe, by contrasted types, the variety that exists, and to indicate, so far as possible, the ideal and the occasion from which each type springs. Particular schemes are not described as such, but information about them has been freely used. I am greatly indebted to the many

science mistresses who have assisted me, especially to Miss Stern and Miss Drummound of the North London Collegiate School who have collected and sifted for me and discussed with me the ideas and experience of their colleagues in science teaching throughout the country, a process in the course of which we have garnered much wisdom for the further development of our own work.

The general ideal underlying all the types is that of (1) a continuous and thorough study in one subject, or two in correlation, based on (2) a more or less wide foundation of elementary science designed to give—

1. The knowledge which necessarily underlies more advanced work in any science.
2. Training in (1) accuracy of observation and measurement, (2) scientific reasoning and manipulation.
3. Development of wider interests—especially the scientific interest in natural events—and thus an insight and a habit of inquiry into the connexion between science and everyday life.
4. Such knowledge of living things and physical law as is required for correlation with other subjects, e.g. geography, in the school curriculum.

The course of study shows therefore two parts, (A) the preliminary, (B) the senior course, consisting of chemistry or botany or physics, or in a few cases some combination of these. The age or stage which divides A from B differs according to the circumstances of the school. In an ideal and homogeneous school system it would naturally fall at the line between the junior and the senior school, i.e. about fourteen years of age.

This is the ordinary science course, normally taken, in one form or another, by every girl who goes up through the school to reach, in the Upper Fifth Form, a certain well-understood level known as matriculation standard. In schools which have a well-defined Sixth Form of ex-matriculation standard there is generally a group of

students specializing in science. Chemistry and biology together with mathematics and mechanics make up a science curriculum which is usual, because convenient, at this standard. Some schools, however, make physics an important part of the course in the science Sixth, thus enriching very much the student's equipment, especially if this subject did not form part of her ordinary senior course. Probably the chief reason why physics is not taken universally by the Sixth Form science students lies in lack of adequate equipment for the experimental treatment of this subject. For this lack there are three partial remedies together making one complete remedy: (1) a clearer recognition by all concerned of the fact that a good deal of work can be done with comparatively simple and inexpensive equipment; (2) the introduction of manual work for the making of simple physical apparatus, which would kill two birds with one stone; and (3) the finding of school funds sufficient to supply the equipment for physics that is required, e.g. electrometers, accumulators, voltameters, and other elaborate apparatus.

A. Preliminary Course.

In most schools the younger children, say up to twelve or thirteen years of age, have lessons in botany, or more generally in nature study, animal life being included. There is also in some schools, under the name of geometry, or measurement, or better still as a series of practical exercises in the planning and making of real things, some training in accuracy of co-operation between hand, eye, and brain.

To this follows the course of very elementary physics, one year or two as the case may be, the essential thing being that the individual child works experimentally,

aims always at finding out for herself, and is encouraged to initiate also the direction of inquiry.

As to subject-matter, heat and the simpler phenomena of pressure, especially as acting on liquids and gases, form the staple. These come naturally first, because easy, interesting, and, as a fact, first in order of discovery. Also they are essential: (1) for the interpretation of every-day events, e.g. the heating and ventilation of buildings by convection currents; and (2) for the appreciation of those effects of pressure which play so large a part in geographical phenomena. Chiefly, however, these studies are necessary for the understanding of all further scientific work.

A typical example of the method of procedure is as follows:—

1. By means of simple experiments with the plumb line, spring balance, and ordinary balance, the *idea* of weight is elucidated. Practical interest can be given to the weighings according to opportunity and environment.

2. The idea of relative weight leads to the investigation of densities of various substances under varying conditions. In due course the discovery is made that change of temperature changes density. Accuracy of manipulation is trained in this inquiry.

3. By weighing in liquids instead of in air, liquid pressure and its transmission is discovered. The study of the principle of Archimedes follows. Interest centres in the fascinating subject of floating bodies with plentiful opportunity for practical development.

4. Transition might here be made to the current topic of aviation and thus to inquiry into the weight of air. Thence we can look back to the stories of the pump, and syphon, and the invention of the barometer in which lies the discovery of atmospheric pressure.

5. The study of the different methods of conveying heat, i.e. conduction, convection, and radiation, leads to the application of these methods for the heating of rooms, water, etc. Experiments also on specific and latent heat enable the learners to

understand many phenomena in everyday life, e.g. why milk boils more quickly than water, why ice first forms at the top of a pool, and why there is a fall in temperature during a rainstorm.

In many cases a study of simple chemical operations forms part of the course or accompanies it. In other cases chemistry follows as the next stage. More frequently the preliminary course on physics is supplemented by courses in botany and nature study, and occasionally in geology and astronomy, a still wider interest being thus built up. In a few cases hygiene is introduced, as well as, or instead of, botany and nature study. Astronomy and hygiene cannot, it is obvious, be treated heuristically at this stage, though good scientific thinking can be done in the application of physiological principles to life. The chief value of such a subject at this stage lies in the development of interest. Astronomy of course cannot be studied as a science without good mathematics. But as a training for the child's capacity for wonder it is, in my judgment, matchless. Only it is necessary to be able sometimes to see the sky clear at night.

B. The Senior Course.

Part I. Subject-matter.

In a few schools botany and chemistry run concurrently throughout. Most schools take a single subject, botany or chemistry, at this stage. The course may, on an average, be described as a two or three years' course, followed in those schools, or parts of schools, which allow of this extension by a further course in the same or other subjects for students specializing in science. This further course does not, however, concern us at this point: it is not part of the ordinary course. The standard and topic of the ordinary course correspond in most cases to the

requirements of the school examination taken about the age of seventeen, e.g. the Joint Board, London Matriculation, etc. Under the more elastic system of examination now coming in, by which the school schedule of work is, under conditions, accepted by the examining university, the schools have considerable increase of liberty as to topics selected; but few have used it yet. There are, however, interesting variations of type in the order of presentation of the subject-matter. This occurs more especially in chemistry where the correlation with domestic science has brought to the front vital questions of method as well as of matter. The development of the study of botany in view of its significance for general biology, carries with it the necessity for provision of a short preliminary course of chemistry so far as required for the understanding of those chemical changes which are the basis of plant life. In proportion as this correlation of botany with chemistry and, it should be added, with elementary physics also, is considered, the schemes of study in botany vary from school to school. The amount of practical work done—(1) in experiments on growth, (2) in gardening under glass or in the open, and (3) in field work, especially for the study of the problems of adaptation—gives further scope for variety of treatment.

In a few schools physics, as alternative to botany or chemistry, is accorded the ampler treatment of a senior course, choice of one out of three being offered at this stage. In others, also few, physics, including electricity and magnetism, receives attention as part of the senior course in which chemistry also is taken.

The following is an interesting example of this type, which is more comprehensive in extent than is at all usual.

In the three preparatory Forms, nature study is taken

as in most other schools. Then follow four years from the Lower IV to Lower V during which all the girls take botany and either domestic science (about 50 per cent), or general science (about 50 per cent). The former is of course correlated with practical domestic work, and includes also some study of physiology and hygiene. The latter proceeds from the usual studies in heat and in measurements of space, mass, density, through the usual elementary physics and chemistry, to the elements of magnetism and electricity. This is taken as part of the course in Lower V and comprises—

1. The properties of magnets, including the earth, and the study of the compass and dipping needle.
2. The correlation of chemical and electrical energies. Electrolysis.
3. Principles of the electric bell, electric light, the telegraph, and telephone.

The general science course so far is taken by all the girls who do not adopt the alternative of domestic science, and it is obvious that, on the one hand, a very useful opening into science study and a training of the scientific intelligence has been provided for those who do not pursue the subject during the next three years, while, on the other hand, an excellent foundation has been laid for those who continue the science course in Upper V and VI. These are about 75 per cent in Upper V and the select science students specializing in the VIth respectively. The Upper Vth study heat, light, and sound to the standard required for the Senior Oxford Local Examination. In the science VIth the first year is devoted to chemistry and the second to chemistry, physics, and botany at the Cambridge Higher Local standard.

The science mistress in charge of this very interesting course of study has been kind enough to give me the

following explanation of principles underlying those parts of it which are most characteristic of the school.

In the fourth year of the course a few lessons in electricity and magnetism have been introduced, chiefly for the benefit of those girls who will give up science at the end of the course, in order that the commoner everyday phenomena of electricity and magnetism, such as the earth's magnetism, construction of electric bells, lights, telegraph, and telephone, etc., should be intelligible to them. I think this subject might well be introduced, and followed up after, by experimenting on the volumetric composition of water by analysis. At this stage demonstration would have to take the place of individual practical work, to a great extent.

The object of the elementary mechanics in the fourth year and the hydrostatics in previous years is to benefit both those continuing the study of science and those giving it up—the former by laying the foundation for further study in more advanced physics and the latter by familiarizing them with general principles. These admit of individual practical work, which seems to interest the girls more than study by demonstration.

The course was in part designed so that the third and fourth year's work should embrace some subjects already dealt with, but should treat them from a more advanced standpoint. This is to serve the purpose of revision of work already dealt with in previous years and at the same time, to bridge over gaps in the work of any girls who may have entered the form at a later date: e.g. the density determinations in the third year recall the simpler ones in the first year, while the study of oxygen in the fourth year is based on foundations built up in the second year whilst studying the composition of the air.

The prominence of physics in the scheme is partly due to the wish to give an elementary knowledge of the most important branches to those who will not continue the study longer, and partly to lay a foundation in physics in the minds of those who will take it up later, and thus relieve the rush which seems unavoidable if all the work, e.g. physics in group E of the Higher Local Examination, be attempted.

A few words should be added here on the subject of zoology which in some schools has a place, either as an

alternative science or as part of the general course. Except for the little ones, who deal with it observationally as nature study, this subject is suitable only for girls over sixteen. Before this age the complete study of the internal anatomy is not desirable: above that age a course in zoology or in general biology, plant and animal, gives a much wider view of biological problems and their relation to man than botany alone can give. The disadvantage lies in the necessity for dissection; the advantage partly in the deeper and wider interest, partly in the direct and strictly scientific approach to the facts of animal reproduction. Practical difficulties and also, without doubt, a feeling of the unsuitability of dissection for girls of the school age, prevent most schools from attempting this subject.

The courses of study may be classified under the headings of these three subjects — chemistry, botany, and physics. In each there are varieties of type, more especially in chemistry, where we distinguish three methods of procedure, all reasonable. There is room in reason for such variations, since the special aim of the course must be adapted (1) to the probable life career of the girls; and (2) to their school opportunities as controlled by the ages of entry and leaving. For instance, consider a school in which the girls enter early and leave for the most part at the age of fifteen or sixteen. Here their work may well be shaped throughout by reference to the problems of cleaning and cooking; and thus the earlier year or years will be contrived so as to appeal to domestic interest and to be of domestic use. In another school where the leaving age is high and half the girls come in late, the senior course must be so contrived as to form a complete unity in itself, and the main demand is likely to be for a course designed primarily in the interest of theoretic study, to

which the special study of domestic science may, or may not, be attached, either in sequence or as an alternative. I am inclined to think, too, that some allowance should be made for the teacher's own enthusiasms, though they must of course be subordinate to the lines of psychological development in the child.

Part II. Schemes of Study and Procedure.

I. Chemistry.—Three typical courses for the beginnings of chemistry may be observed in our schools:—

Type I.—Based on the preparation of new substances from substances with which the learner is familiar, the examination of these substances after their preparation, and their action on one another.

Type II.—Begins with the solution of a series of simple problems (suggested for the most part by the familiar facts of burning), which problems and their solutions are developed as far as possible from suggestions made by the learners.

Type III.—The aim of which is the acquisition of knowledge leading up to the chemistry of domestic life, and the psychological spring of which is the learner's practical interest.

Of these (1) and (2) rest upon the appeal to the theoretic interest and its development. What are things made of, and what becomes of them when destroyed by familiar processes like burning? These two types are distinguished by the choice made of starting-point and guiding idea. In each there is a natural order of discovery, logical system, and psychological interest. Both are popular. Both are in my opinion good. The strength of (3) lies in its supreme attractiveness for the practical mind intent on finding out how things are to be done and why. Its difficulty is the preservation of logical development either as systematic thought or consecutive discovery; to strong minds, however, this difficulty is stimulating.

Examples of these types are as follows. They are, however, examples only:—

Type I.—1. The course starts from the action of heat on common substances, e.g. soda, salt, sugar, chalk, coal. During the investigation of coal, iron pyrites is noticed, and it is found that, by heating in air, this can be changed into a substance called green vitriol, from which, by the further action of heat, sulphuric acid is obtained. In studying the properties of this acid, its action on common substances, e.g. salt, sugar, saltpetre, is naturally tried, and so other substances are prepared and examined. All these substances are found to have the same action on litmus paper as well-known acids, such as lemon juice and vinegar; they are therefore classed together under the name of *Acids*.

2. Soda and lime form the foundation for the preparation of the caustic alkalies, the common properties of which with ammonia give rise to the classification as *Alkalies*.

3. Next follows the reaction of the acids on the alkalies and the formation of *Salts*. Since the neutralization is carried out quantitatively as well as qualitatively, the learners find the equivalent proportions of the acids and alkalies, and so the foundation is laid for the understanding of the law of chemical combination by definite proportions.

4. The common *metals* are next heated in air and, among other substances, red lead is prepared; by the action of this on hydrochloric acid *Chlorine* is liberated; by the action of chlorine on caustic potash potassium chlorate is prepared, and on heating this substance *Oxygen* is obtained. This leads to experiments as to the action of oxygen on various substances and to the discovery that heating in air usually results in oxidation. The constituents of air are thus discovered, and on further investigation of the metallic oxides the traditional methods of preparing oxygen are discovered and the work of Priestley and Lavoisier discussed. The action of oxygen on heated carbon leads to the preparation of both oxides of carbon, and thus the learners become acquainted with an example of the combination of two elements in different proportions.

5. The action of acids on metals, and the action of acids on the oxides of metals, result in the preparation of hydrogen, sulphur dioxide, and the oxides of nitrogen, as well as the metallic salts. Hydrogen on burning forms water. This discovery leads to a series of experiments as to the action of water

on metals and also to the knowledge of the composition of water. The oxides of nitrogen are analyzed and from the results obtained by the learners the law of multiple proportion is suggested.

Type II.—Combustion being the chief source of heat known to the learners, a chemistry course which follows immediately upon a study of heat may naturally begin with the problem, What is burning?

1. Various substances that burn, e.g. wood, paper, candle, magnesium, etc., are examined simply to observe the process.

2. Discovery of increase in weight of magnesium leads to the first conception of chemical change, and the question follows, From whence does the increase come? As air is the only substance in contact with the metal an experiment is tried to show decrease in volume of the air.

3. The fact that magnesium uses up only one-fifth of the air suggests that air may be composed of more than one gas. This is confirmed, but not proved, by testing the properties of air after the burning of magnesium in it and contrasting them with the properties of ordinary air.

4. The similarity of appearance between tarnished magnesium and the calx of the metal leads to an investigation of the effect of heat on other metals, showing that here too the changes are due to the influence of the air.

5. Then follows a study of the substances obtained by the action of air on metals; and the formation of oxygen by the action of heat on red oxide of mercury gives further evidence as to the composition of the air.

(Here the history of Priestley's and Lavoisier's experiments is given in confirmation of the learner's own.)

6. Application of knowledge already gained is now made to the burning of non-metallic substances. Amongst others, carbon is burned, and the formation of the gaseous product and its properties are discovered by a comparison between the properties of ordinary air and that in which carbon has burnt. This is followed by a full study of the burning of a candle. Does it use air? What are the products of combustion? As water is formed, is it an oxide? Since heat will not liberate oxygen—(as was the case with red calx)—the action of magnesium on heated steam is tried. Hydrogen is thus obtained, and the presence of carbon and hydrogen in the candle is argued from the composition of the products of combustion.

7. The history of the theory of burning from early times is

told at this stage, with extracts read from the work of Jean Rey and his opponents, in order that the learners may realize the slowness of the historical development and get hints of the causes which help and hinder investigation.

Burning leads thus to a study of oxides, hence to acids, alkalies, and salts.

Type III.—In the first year the learners are made familiar with simple chemical processes such as solution and crystallization, and are led from these to a study of the properties of certain substances, a knowledge of which will be specially useful to them later. Even at this stage the practical application of their knowledge is kept well to the fore. Thus air is studied in connexion with the processes of combustion, respiration, and ventilation.

The presence of carbon dioxide in the air leads to a study of chalk, limestone, etc., and these to the causes of hardness in water and methods of softening.

The composition of water is discovered by burning the hydrogen obtained by the action of acids on metals, and the knowledge of this is used in a further study of the burning of coal gas and its effects on the atmosphere.

In the next two years the choice of substances for study is determined by their use in the household for cleaning and for food. Washing soda and baking soda are first selected, the action of washing soda on fats being used to explain its use for cleansing greasy dishes, while the discovery in the laboratory of the evolution of carbon dioxide on the heating of baking soda is used in the kitchen in the making of gingerbread. The use of the more complicated baking powder can only be understood in connexion with a rather fuller study of the action of acids and alkalies on each other and on salts, and all these are therefore studied at this stage.

In a somewhat similar manner sugar, flour, and starch are studied, the latter with reference to laundry work as well as cooking.

During a course of study on fats and oils, frying, combustion (oil lamps), and soap-making are all practically dealt with.

Investigations into the composition and properties of proteins lead up to practical studies in various methods of cooking meat and their special values.

At the end of the course foods are considered in their relation to the human body and digestion, and dietaries are dealt with.

The above is an example of a course in which the selection of material depends throughout on its applicability to domestic work. In many cases such specially applied work is done for some definite period only, and thus a working compromise is effected between the aims of the various courses sketched above. It is obvious that this solution of the problem applies specially to schools where the leaving age is early. In schools where most girls do not leave till eighteen or nineteen it is obviously possible, and it is generally regarded as advantageous, that the chemistry course should develop freely as pure chemistry first (after the manner of either the first or second methods indicated above), and receive its practical applications when a firm grasp of chemical principles has been already acquired. In such cases there is apt to be a bifurcation after about two years of the chemical course have been completed, some girls following a course of pure chemistry to matriculation standard, while others study applied chemistry in direct connexion with practical domestic work.

Before leaving this subject I would like to make one suggestion. The chemistry of cleaning is much easier than the chemistry of cooking, and it abounds in opportunities for fascinating inquiries in pursuit of which the novice can begin to taste the joys of research. I would like to see more done in this branch of the subject.

II. *Botany.*—A great change has taken place in botanical teaching in schools during the last few years. Less and less stress is laid on mere power of description and learning of classifications. Botany takes its place in a new way as a branch of biology, and aims at bringing the learner into sympathetic contact with plants as living organisms. Such an aim can only be fulfilled by a study of the *activities* of plants, their power of response to

influences in the world around them, their metabolism and growth, their methods of reproduction, and their life-histories. An understanding of the essential similarity, underlying the obvious diversity, between plants and animals in their various activities lends a new and more human interest to the subject; such an understanding does not necessarily imply any definite zoological teaching, but materials for many comparisons can be drawn from the common knowledge of the learners.

The activities of plants should be studied by two methods which are usually combined:—

1. The growth and behaviour of plants are observed under natural conditions; this implies observation in the field, and also care of plants in the class-room or garden where the pupil is brought into frequent contact with them.

2. Plants are subjected to experimental treatment so that they may be watched under artificially arranged conditions; thus their powers of response can be more accurately gauged, and the effect of one or another influence in the complex environment be picked out for special study.

In the course of such experimental work it is necessarily borne in upon the learners' minds that the activities of the living body do not stand apart by themselves to be explained merely by the magical word "life". They realize that here, too, cause and effect are as active as in physics and chemistry and their daily life. They learn further that the same causes and effects, modified by new conditions, can be traced; they realize the organism as modified by the environment, the environment as modified by the organism. For their later life, as members of a complex society, this is perhaps the most valuable point of view given by botanical study. This necessarily implies, however, that previous training has been given in physics and chemistry, and indeed much of the value of the botanical course will be lost unless the

pupils have a real appreciation of the meaning of chemical change and can understand the commoner chemical changes (such as those due to oxidation), which take place without and within the living body.

The method of studying physiology by experiment has this further advantage that thus it becomes possible to give a mental training very similar to that gained by the more advanced course in physics or chemistry. The problems are of course apt to be complex, as an attempt to simplify conditions for the purposes of an experiment may often lead to a disturbance in the normal equilibrium of the organism. The critical faculty must therefore be kept keenly on the alert; all the conditions, as affecting other functions of the body besides those to be directly experimented on, must be thought out beforehand, and excellent mental training is given by the devising of suitable control experiments. For such work as this, however, it is obvious that the ordinary appliances that can be used in a class-room are insufficient. A much wider and deeper development of the subject is possible in a simply equipped botanical laboratory.

The following outline of the beginning of a typical course may be interesting:—

1. *The preliminary course in Chemistry* should be developed for its own sake; but at the end of the course the chemical processes an understanding of which is essential to botany should be specially studied, e.g. combustion, including respiration, composition of starch, sugar, etc.

A continuous course dealing with these apparently disconnected subjects may be worked out as follows:—

A series of experiments is performed on the burning of a candle, and the presence of carbon and hydrogen in the candle is argued from the formation of carbon dioxide and water.

Similarly the composition of starch and sugar may be obtained from a study of the effects of heat and combustion.

Proteins are then studied and tests are learnt for all the substances.

2. *The Botanical Work proper.*—Seeds and seedlings are convenient material upon which to begin, as their rapid growth gives an immediate impression of vivid life, while they are also in many ways specially suitable for experimental purposes.

Respiration forms a natural starting-point, and experiments are devised with the object of finding out whether oxidation in the living body has the same results as in the non-living.

Does the oxidation of carbon lead, as in the candle, to a diminution of the body substance? Does oxidation produce heat?

These may naturally lead to experiments on water-absorption —water and air being the two fundamental needs of the seed.

The fact that on germination the body of the young plant is being built up, (under artificial conditions), without access to other food than air and water, leads to a study of the seed itself to find what, and where, the reserve food material may be. The nature of true growth, as distinct from increase of size due to imbibition, (as in the dry seed), or addition of substance on the outside, (as in crystal), may now be considered.

The seedlings being by this time fairly developed, the power of the root and shoot to do mechanical work may be observed and measured, reference being again made to respiration as the source whence the needful energy is derived.

Sooner or later, increase of weight, instead of decrease, will be discovered in plants kept in the light. This will lead to a discussion on the nature of the food supply, and to experiments on photosyntheses.

The different form of plants kept in the dark will lead (if the upward growth of the shoot and the downward growth of the root have not already done so) to the study of the powers of response to external conditions.

Thus all the chief activities characteristic of the living, as contrasted with the non-living, are early met with, and are at once grasped as only existing by virtue of their interaction.

On this foundation the further work in botany may be variously developed. Varieties of form are studied in their relation to functions performed under a variety of conditions. Comparison of forms leads to classification, and this with senior pupils may be developed into a comparative study of non-flowering as well as flowering plants, leading up to the conception of evolution.

The difficulty in framing a sound scheme of science study is just one phase of the difficulty experienced in the framing of the curriculum as a whole. The sphere of knowledge is so large and so manifold in each of its several quarters, that even the ripened intellect can only preserve its normal profundity by concentration on a limited array of special practical interests or special lines of thought. Smatterers are people who not only do not know but cannot learn to know anything thoroughly. The world of real life has no use for smatterers: it demands persons who have an effective ideal of thoroughness in knowledge and accuracy in work. Such reflections as these have a manifest application to all educational work: but they apply with a directness which is unique to the problem of scientific education. For science is Science in so far as it approximates to that perfect type of knowledge in which each event that happens is seen as correlated with every other. Science as we have it is indeed not yet knowledge raised to its highest point of perfection; but it is knowledge being carried to that point. And so the very study of science implies the development, in a mind still plastic enough to be developed, of the scientific bent of thought—the impulse, which becomes with training a settled will, to inquire into the reasons of things, to search for causes hidden away in a mass of concomitants, to experiment for effects, to guess shrewdly and test each guess, to invent tests of truth, to observe and to criticize, to prove all things.

Thus, as it appears to me, the prime condition to be fulfilled in a school scheme of natural science study is that it shall lend itself, with certainty and ease, to develop in the immature but plastic mind of average ability this *scientific attitude* of alert *individual inquiry*.

From this it follows that (1) the subject-matter should at each stage be as attractive as possible in the sense of stimulus to inquiry: a tadpole, for instance, though not so nice, is probably more stimulating at six years old than a buttercup. (2) The problems raised by the subject-matter should not be too difficult for the learner's own powers of intellectual inquiry; and indeed if she finds out nothing for herself she will soon let the observant teacher know it by her air of patient boredom. Probably the dislike to science which sometimes befalls the highly taught children of scientific fathers is due partly to this cause. (3) So far as possible the natural practical interests of the learners should be enlisted as a powerful additional stimulus to scientific motive. Every well brought-up girl, for instance, shapes herself in accordance with the demand for sharing her mother's interest in domestic problems; as a student in the chemical laboratory it falls within her scope to investigate some of these, especially those problems of cleaning in which it is sometimes thought that none but women take an interest. Boys, on the other hand, with their greater interest in muscular achievement, turn from their earliest years to the investigation of muscle-saving and power-displaying machinery of all kinds; these interests serve them well in the study of physics, especially if it be associated with some manual construction as well as with laboratory work. It will of course be obvious that the utilization of such natural practical interests, including especially those characteristic, by heredity and association, of different industrial groups, has an effect similar to that of education preparatory to special industrial careers, e.g. the study of physics in an engineering district, of botany for gardeners and agriculturists, and of chemistry, I suppose, for all the

home-helpers and future home-makers in our girls' schools.

So much for the fulfilment of this prime condition that the study of natural science shall issue in the development of a mind prone to the scientific treatment of problems in life and knowledge as they arise. There is, however, another aspect of the problem. Natural science subserves another interest than that of *Science* as such: it is the science of *Nature;* before it comes into being as science it has a prologue with the humbler title of nature study. Nature can be studied and enjoyed, as history and literature and politics can be studied, superficially—as a series, more or less connected, of interesting facts—not as Science but as Lore.

The acquisition of Nature Lore precedes the study of Natural Science, and also accompanies it throughout the intellectual life of any genuine Nature student. Natural objects, the manifestation of natural forces, arrest the attention, stimulate interest, and provoke inquiry the response to which delights and expands the growing mind. The interest in Nature as an All that can be known in all its parts comes of looking out upon her from all available sides, noting her ways in each of those manifestations of her activity which are classified under the headings of physics, chemistry, biology, wondering over her and hearing about her in all her aspects, especially those in which we are not able to investigate her scientifically for ourselves. It is good for the young mind, therefore, to have a wider outlook on the wonders of Nature—a sense of the far horizon beyond that special portion of the special field to which she is devoting her scientific activity at any particular time.

Thus it is a condition of sound school education on

the one hand that *the learner shall work at some nature subject in the spirit of original investigation*, and it is a condition on the other hand, no less to be observed, that *she shall not leave school in such total ignorance as to involve total lack of interest in the scheme of nature knowledge as a whole.*

SOPHIE BRYANT.

CHAPTER XII.

HOME ARTS.

IN recent years there has been a widespread movement to bring the education of our girls into relation with their work as home-makers. The old "blue-stocking" type, who prided herself on not knowing how to sew and mend, and who thought cooking menial, and beneath her, no longer appeals to anyone. The ideal is developing, and we are learning to regard with pity anyone, girl or woman, who is helpless in a home. But at the same time we no longer share the conception of a woman's whole duty held by our grandmothers. We do not applaud the mother or daughter who spends long hours in the kitchen, or who revels in turning the whole house upside down and inside out in that most bewildering and least methodical of all human inconveniences—the spring cleaning. We have come to see that method and system are better than rule of thumb and guesswork, that housekeeping is as much a science as an art, and that in it, as in all other departments of life, it is brain that tells. We want our girls to grow up into sensible, methodical, practical women, able to direct intelligently and sympathetically the manifold activities of the home—ready themselves to lend a hand if the call come—and imbued with a deep sense of the worth and dignity of all true work, whether it be scrubbing a floor or construing a crabbed Greek chorus.

With this change of ideal there has entered into many of our schools an effort to equip girls for such work. The action of the Board of Education has done much to encourage this aim. But prejudice dies hard, and in too many schools the ideal is still purely intellectual in the strictly limited and scholastic sense, and cooking and domestic economy generally are looked down upon as all right for "poor dears" or "duffers," but waste of time for a really clever girl.

Regarded from the point of view of instruction in home arts, secondary schools for girls fall roughly into four main groups. It should be stated in passing that practically all schools teach needlework, though the vast majority confine such instruction to the junior classes, and generally discontinue it in one of the Fourth Forms.

(*a*) Some neglect the subject altogether, and explain, where they think explanation necessary, that they consider this subject as falling within the province of the home authorities.

(*b*) A section, unfortunately a fairly considerable one, look upon home arts as the Cinderella of the educational family. When a girl positively cannot make progress with ordinary school work she is put into the cookery class. This position is stated with startling *naïveté* by one school: "A few girls who are backward in intellectual work learn cookery".

(*c*) An increasing and very important section, including some of our prominent high schools, carry out a very comprehensive and scientific scheme of work as a post-school course, to be taken, either after the girl leaves school, or when she reaches the age of seventeen. It is perhaps not unfair to point out in passing that this group implicitly suggests the theory of (*b*), because a girl of seventeen, if she is really clever, is generally drafted into

classes working for University examinations and not into the parallel "technical form" where a good many of the ordinary school subjects are dropped. Again, a girl of this sort first begins to feel the pressure of outside examinations about this time, and she is not likely to wish to spend several hours a week on subjects completely outside her syllabus.

(*d*) A few schools regard the due and reasonable training of every girl in the duties and needs of home life as one of their gravest and most sacred responsibilities. In these schools, each girl, clever or average, rich or poor, goes through a course of needlework, cookery, laundry, hygiene, dressmaking, and household accounts.

It will perhaps be useful to take these various groups, and give schemes typical of each. (*a*) and (*b*) need little comment. It is true we want our girls to know the joys of real scholarship: to feel the exultation of seeing their way through a stiff piece of mathematical work, to hear the haunting pathos of Virgil's verse, to see the clash and clangour of human emotion, its laughter and its tears, in our great dramatists. We want them to catch the patient spirit of self-sacrifice and dogged perseverance that must characterize true learning, but we must never forget that they are to be women first and scholars afterwards; dutiful daughters and wise, sympathetic mothers, not only college lecturers and high school mistresses. Therefore we cannot regard home arts as outside the aim of the school. Schools that omit all instruction in the preparation for home life, or who, worse still, treat such preparation with hurtful contempt, may, and do, produce fine scholars. But they are doing very little to help our national life, because they are doing nothing to make our girls builders of homes and makers of men. It is worse

than useless to expect a girl to get systematic training at home in housekeeping, when you keep her at school each morning from 9.15 to 1.15, expect her to play games, take gymnasium, drawing, and probably music in the afternoon, and give her sufficient homework to keep her busy all the evening. In most cases I believe such girls grow up with practically no share in the home life, and with no real knowledge of the principles of cookery and housekeeping generally, exiles from all the sweet joys and varied interests of their own home circle.

The third class is of great importance. Schemes of work here are based upon the principle that a thorough training in home arts can be given only to girls who have reached a certain maturity, intellectually and morally. Since in these cases the pupil takes up the subject only when she is free from the claims of ordinary school lessons, the instruction covers a very wide field. One prominent high school in London grants a "Housewife's Certificate" to students who take their full course in "Experimental Home Science and Economics". In schools under this section the syllabus generally indicates lectures and practical work in the chemistry of food and the house, in laundry, practical and scientific, in upholstery, in dressmaking, in nursing, in child study, and in household accounts and—most delightful item—"how to carry out economies".

Such schemes are of widespread interest as showing a deliberate and carefully thought-out effort to cope with the question of preparation for home life, and, theoretically, they provide for instruction in every possible department of the home. Thus, the introductory lesson of the first term deals with the "origin of home," "the business of home-making"; subsequent lectures treat of the construction and management of stoves, fuel, the chemistry

of water, cleanliness, and cleaning, "matter, its nature and changes," cooking, fuel, foods, study of starch, study of wheat, and in the place of Lecture XII stands the one word "examination".

There are two other terms of this course dealing with the composition of various food-stuffs. The training for the elementary certificate takes one year—700 hours' work; for the advanced course a second year of 700 hours is needed.

The 700 hours are thus apportioned:—

Divinity	30
Chemistry	100
Cookery	130
Laundry	80
Housewifery	90
Dressmaking	110
Needlework	110
Hygiene	50

In thoroughly considering schemes of this type, one feels that there is a danger of their becoming too comprehensive; of being extensive rather than intensive. One must of course bear in mind the type of pupil who takes a course of this sort. If she has passed through a good high school she will have had several years' experience in the laboratory, and will therefore be able to grasp scientific ideas better than a less carefully educated girl.

In other schools in this group, there is a special course for girls taking only some of the ordinary school subjects. It is practical rather than scientific, and is designed as the beginning of a preparation for home life.

Several large and important schools are doing work of this kind, and it is a very hopeful sign that housecraft is at last recognized as requiring definite and systematic study and teaching. And many a girl who would otherwise be

a little at a loss on leaving school, will find in such a course an interest and an ideal that will help her to bridge over those difficult first years when school life, with its manifold responsibilities, interest, and delights, is ended, and full home duties are not yet assumed.

The weak point lies in the fact that the clever girls who are going through the VIth for university scholarships go to college without any knowledge, as far as the school is concerned, of home arts. Surely the promising girl who wants to become a college lecturer or a doctor needs help in this direction. Indeed it is just she who most needs it, and who must get it during school years, if she is to get it at all. College life once begun, there is little to develop home instincts and household skill. In truth there is much to draw away from these activities, and it behoves the schools to remember that the future of the race depends on the mothers of the coming generation. They must not only be scholarly in book learning, but skilled in household arts, ready, when the sacred call comes to them, to take their place as home-makers and home-keepers.

There remains the (*d*) class, schools in which training in the home arts forms an integral part of the curriculum.

These schools nearly always provide for instruction in needlework for all younger children. The effort is to make this as practical as possible and to avoid, therefore, all merely "sampler work".

Cookery is generally taken in the Upper IV or Lower V Form by girls of about fifteen years of age. The aim throughout is to teach the children the scientific explanation of processes which they carry out practically in the cookery room. The science course bears upon the chemistry of food, the action of acids, and of heat, etc., and the various processes of digestion.

The strong point of such schemes is that the children

really see the same chemical processes under two aspects, at one time in the laboratory with all the conditions of a scientific experiment, at another in the cookery room with all the circumstances of home needs in the way of varied menus and the necessity for securing that "good digestion waits on appetite". The weak point lies in the danger lest the one side should gain undue prominence to the unfair subordination of the other. If the science is sacrificed to the practical cookery, the children lose valuable training in scientific method; if the science usurps too much time, the cookery becomes doctrinaire and unpractical. Each must have its due share. The science mistress and the cookery mistress must work in entire harmony and mutual confidence.

Criticism, to justify itself, must be constructive not merely destructive, and I would therefore, with all diffidence, outline a scheme in which the home arts is absolutely an integral part of the school work, taken alike by the brilliant girl, and by her less richly endowed sister, regarded with the respect and enthusiasm accorded to any other branch of study.

One must begin by saying that, except in small schools, the science and cookery mistresses cannot be one and the same person. The science mistress must, however, know a good deal about the practical side of cookery and laundry. The home-arts mistress must know the principal facts of elementary inorganic chemistry and must have studied the chemistry of food.

Another important preliminary condition; the home-arts mistress must be a regular member of the staff, and should, if possible, be in charge of a Form. This gives her and her department standing. She should teach some subject beyond her special work, some elementary mathematics, some English or nature study, it matters not

what, so long as there is no suggestion of "watertight compartments". If the school is a large one, it is impossible that the mistress should also be school matron and responsible for servants and housekeeping. She must be entirely identified with the teaching staff and take her place in the mistresses' common room like any other specialist. On the character and standing of the home-arts mistress much depends. Her subject has to win its way in the face of a good deal of old-established prejudice. You cannot get the home arts taught just anywhere and by anyone.

Naturally, needlework would commence the course. The little people in Form I begin sewing, and it should be continued throughout the lower and middle school. At first forty-five minutes' lessons would give ample time, later, an hour, and then one hour and a half, or two hours would be necessary. There should not be more than fifteen in a class. This could be planned by sending half the class to drawing and half to needlework one day, and changing the divisions on another day, or one set might take needlework and the remainder science. Small classes are an absolute essential if girls are to develop individuality and self-reliance.

In no class should the children merely practise stitches, all work should be useful and practical, and even first form babies can make very dainty soft canvas dusters which become precious and cherished possessions. Another class of youngsters can make wrappers in which to fold away their work, others learn to cut out and make work-aprons. Flannel stitches must next be taught, and then perhaps a pretty camisole, such as all nice girls love, could be made. Quick deft-fingered girls will be able to work out designs in the studio for embroidery. Science overalls and cookery aprons and sleeves come

next. The long wearisome seams become full of interest when the needlewoman is trying how perfectly straight she can machine, and this gives time for simple embroidery on bib and pocket, and this teaches incidentally much about the need for careful consideration of materials and purpose in design.

By fourteen or fifteen all girls should have given proof of fair proficiency in needlework. They would have facility in all ordinary stitches, and they would be able to draft and cut out any simple garment. They can machine a long seam straight, and better still, if the needle break, they know how to put a new one in. Then they can begin cookery, and their work in science at once comes into connexion with it. Up to this point the science course has been correlated with geography and nature study. These girls will have already had two, and in some cases three years' training in science, they will have gone through a course of general elementary science, and, for a year immediately preceding their cookery, they will have studied the chemistry of air and water. During this year they thus gain a knowledge of the fundamental elements from the study of substances within their own experience, i.e. air and water; so dealing with one of the food classes, water.

Science and cookery proceed together step by step. The scheme here deals with milk first, because in it the children can find, by experiments carried out entirely by themselves in the laboratory, all the foodstuffs necessary for life. Experiments on eggs will illustrate the properties of albumen, and thus lead to further work in connexion with meat, which reveals fibrin and connective tissue. The effect of moist heat on these is tried and practical lessons drawn from the results. Thus in the laboratory the children will discover for themselves the

properties of milk, eggs, meat, etc. In the cookery room at the same time they will see these principles illustrated from another point of view in the processes of roasting, boiling, stewing, and frying. Starch, sugar, and alcohol, and fermentation generally in the laboratory, at once tell you that bread-making is the subject of the cookery lessons at the time. Processes of cleaning in the housewifery class suggest experiments with certain acids in the corresponding science lesson. The children should do nothing by mere "rule of thumb". Science and cookery are mutually dependent, and experiments on meat, eggshell, white of egg, potatoes go on in the laboratory, while on the science bench in the cookery room, the test tube and the retort are ordinary pieces of equipment.

The principles of combustion, flame, coal gas, etc., are taught with special reference to the fire and gas stove in the cookery room. Similarly, by the time the girls reach laundry in the home-arts course, they should be revising in their chemistry the hardness of water and softening agents, and discovering the composition and properties of soap. They would quite naturally make candles and pieces of soap, of course on a small scale. It is not necessary to give more examples. There are abundant points where intelligent correlation will be worked out. Girls find a new interest and a new zest in the work of home when they can thus see the reasons underlying the processes. The "dull mechanic oar" is transformed, and the daily round of household duties becomes an intellectual occupation based on reasonable and sound principles. And what is of great interest, they go home keen to try fresh methods and eager to apply their new won knowledge. Mothers have come to one school and said, "My daughter tells me the reason of things I have been doing by rule of thumb all my life".

Of course neither science nor cookery must be subordinated the one to the other. It must never be forgotten that the science course must train girls in the patient investigation of facts—must in short give them an inkling of what is meant by the scientific attitude of mind. The work should never be allowed to become "scrappy" and detached; each experiment must follow from some preceding piece of work and itself lead on to further study. It must be remembered, too, that this science cannot be suddenly inserted into a scheme, it must be led up to; it must itself lead on to further study and training. So, too, the home-arts mistress must always bear in mind that she is teaching an art as well as a science, and that it is no use at all to know the scientific principles of the thing if you cannot cook and serve a dinner, if need be. Science and its practical application must go hand in hand, and the girl-housewife must be ready to discover all sorts of labour-saving devices. She must know the "times and seasons" and the prices of stores, and she must, above all, understand the fundamental ideas of the different food values of ordinary articles of diet. This course should be kept in close touch with the home. The more the mothers and fathers can be interested, the more successful is the work. The "Saturday morning bake" is a delightful institution, and one which puts to practical test the value of the school training. Home criticism of these experiments should be encouraged. In one school the girls keep a notebook in which all home practice is entered and parental comment added. Of course this needs time, and is only possible where the girls are practically free from the all-absorbing tyranny of home lessons.

The VIth Form should begin dressmaking. They can easily draft and cut out a skirt and blouse, and quick

workers would embroider from designs worked out in the drawing classes.

Time must be found for hygiene and for some elementary ideas of home nursing. Household accounts will be taught practically in connexion with the cookery classes, and the buying and keeping of stores in the home-arts department. The great difficulty is how to find time for all this. That it can be done has been proved. Two hours a week, if the work is well organized, and if the pupils are trained to bring that zest and concentration which enables them to get every bit of value out of a class, will be sufficient to work through such a course as that thus roughly outlined.

The value of some such scheme of home arts cannot be overestimated. At our peril we omit it in our schemes of work. It claims a place on intellectual, on physical, and on moral grounds: intellectual, because it is a means of training in scientific method: physical, since it practises in the due co-ordination of hand and head: moral, because it brings into practical prominence the claims of the home, and dignifies the daily round and common task of household duties. In these days of the disintegration of homes, and in face of the undoubted tendency of daughters to drift away from their mothers' interests, it is something to give a girl a zest for the activities of home and a sense of the dignity and intellectual worth of home arts. Many a mother and daughter have been brought into a closer and more sympathetic understanding during the difficult period of the girl's young life by this community of interest in the household round.

To do this is surely supremely worth while, and the home-arts course does this, and more. It is really a preparation for life. Our girls are to be scholars, but they

are daughters first, and even the woman destined for professional life and a place in the world's fighting line will some day surely be the better for such training; while, if the intimate personal call comes to her to be the guiding spirit of some happy home, she will answer the more faithfully because of her previous school training in home arts. Her husband will find in her not only the merely intellectual companion, not certainly the overworked, harassed housekeeper so familiar to many of us, worried into premature and unlovely middle age by the multitude of unmethodized duties that crowd upon her, but the cultured and cheerful comrade of his life, the gracious and quiet ruler of a home in which things go with that ordered smoothness which is the surest sign of disciplined efficiency, and the sympathetic and understanding partner of the hopes and ambitions which animate him in his work in the great world.

MARGARET A. GILLILAND.

CHAPTER XIII.

HOME SCIENCE.

THERE can be little need to insist upon the fact that a girl's time-table in any secondary school is in great danger of being overcrowded. The study of languages, literature, history, and geography, the introduction to elementary mathematics and science, demand of the average schoolgirl all the intellectual effort of which she is capable; in the laboratory, at the piano and over her needlework, she finds the variety and relaxation that she requires, and her day is filled to the full. Those concerned in education are now convinced of the further necessity of giving a girl a thorough training in the science of house-keeping, including, when possible, cookery and kitchen laboratory work, laundry, housewifery, dressmaking, hygiene, home nursing, and the management of business affairs. The problem is, when is this wide field of knowledge to be traversed? between the ages of fourteen and seventeen in addition to the ordinary curriculum? or when the heavier part of the school course is at an end?

In supplementing the very interesting paper written by Miss Gilliland, I am endeavouring to represent the view of those who consider that where the average leaving age is eighteen the study of home science should be postponed till a girl is at least sixteen. At that point in her school life I think she should devote from 650 to 700 hours for

one, or preferably two years to the acquirement of this knowledge, bringing a well-trained mind and a sound elementary knowledge of chemistry and physics to bear upon her new studies.

Although I fully recognize that the curriculum must vary in different types of school, yet I consider that the attempt to teach home science as a school subject to girls under sixteen should be avoided whenever it is possible ; it can at best be regarded as a painful necessity, inexpedient from every point of view. A girl's strength may easily be overtaxed between the ages of thirteen and sixteen, and yet it is at the age of thirteen that a second language must be learnt in the normal secondary school, the study of geometry and algebra added to that of arithmetic, and this without any reduction of the time devoted to history, literature, and geography.

If in addition to these subjects botany, physics, and chemistry have been taken in successive years, a foundation will have been laid on right lines for the study of home science ; and familiarity in dealing with test tubes, in making accurate measurements, and in scientific processes will have been acquired. The girl will go to her kitchen laboratory work, or to her practical cookery, impressed with the need of accuracy, and with a power of analysing results.

It would seem best to defer the correlation of science and cookery for as long as possible. The foundations of a knowledge of chemistry and physics should be built up on a well-ordered system which must not be subordinated from the outset to the requirements of home science. The teaching of science during the school years should be such as to prove equally useful to the pupil who elects to take at a later stage a university course in science and to the pupil who enters upon the home science

course. I consider the two hours a week that may be spared from the over-weighted time-table altogether inadequate for the new type of work which some propose to introduce at the age of thirteen or fourteen.

Those of us who desire to confine the teaching of home arts and science to a later stage in the school career, by no means propose to restrict the teaching of this subject to girls of slight mental ability, as is sometimes imagined. There are many schools, especially boarding schools, where the majority of girls have no professional career in view, and will only enter for university examinations if they show distinction in some one branch of knowledge, and are encouraged to pursue it at the university. It has been proved more than easy to induce girls of good ability to take a thorough course in home science towards the end of their school career, and thus equip themselves for home life. It may also be maintained with some justice that girls who have taken this subject as a regular part of their school work from an early age, are less likely to continue it at a later age, when a power of selection is theirs, and when the subject does not offer them the excitement of an undiscovered country.

There seems to me to be only one sound argument against deferring the home science course until the age stated above, viz.: that in so doing those girls who proceed to a university education with a professional career in view, will, for the most part, be unable to devote a year to learning how to manage a house.

The distinction, however, between the professional woman and the woman whose education includes a study of home science will tend to disappear, when university recognition has been accorded to the study of home science and the graduate of the future is able to

choose a subject for her scientific work from a branch of science specially appropriate to her as a woman.

With the present limited experience of domestic economics as a post-school course in England, it is of interest to note the recent German decree, by which so-called Frauenschule are connected with some of the higher girls' schools. The Prussian Government requires a ten years' course of ordinary instruction to be given, and then recommends a further course of two years to complete the education of those girls who are not entering upon a special professional career, but who may marry or take up social work of one kind or another. During these last two years the girls study social and domestic science as well as literature and art.

L. M. FAITHFULL.

CHAPTER XIV.

DRAWING.

INFORMATION Given by "Returns".—From the information sent by schools of varying types we learn that in most of them drawing is considered an integral part of the general education, and is correlated in the lower school with other subjects of the curriculum, and in the upper school with needlework, where that subject is sufficiently advanced to make such correlation possible.

In the lower school the course includes brush-drawing, drawing from objects, and memory and imaginative drawing, the media being pencil, chalk, water-colour, and clay. The lessons are given in the morning, the time varying from forty minutes to two and a half hours a week. Such work gives to every girl a solid foundation for her work in the upper school, where lessons include practical perspective, painting, design, drawing the figure from life, from a draped model, and blackboard drawing. More importance is attached in some schools than in others to design and to the constant practical application of it in the needlework classes. Designing and stencilling for dress, furniture, and wall decoration form a considerable part of the work in some upper schools. Many schools have sketch clubs (the membership for which is voluntary) which meet regularly two or three times a term. The work includes original illustrations, outdoor sketches, etc.

Lectures are given on art, artists, or architecture,

lantern slides being used. In one "report" we read "also we have a reflectoscope for showing pictures by reflection". The ordinary drawing and painting lessons from the Fourth Form upwards are usually given in the afternoon, for a period varying from one to two hours a week, one and a half being the length of the lesson in most cases. The girl of average ability attends one afternoon, and those specially gifted in this subject two or more. In many schools such afternoon lessons are stated to be optional but almost invariably attended.

Examinations.—With regard to examinations, the returns show that there is diversity of practice. Some schools use the examination of the Royal Drawing Society throughout, others claim that freedom up to the age of twelve allows a more educational course to be followed than if the teacher were restricted by an outside syllabus. In these schools the *elder* girls take the Royal Drawing Society's examination or that of the Oxford and Cambridge Joint Board higher certificate or examination of a similar standard. Some teachers, on the other hand, deprecate any examination being taken except by a minority of girls and that at the end of their school course. These teachers consider that inspection gives a greater stimulus to both teacher and taught. From one school the opinion is given "a competent teacher should be cramped by no system imposed from without"; that the girls produce better work if the teacher is at liberty to make her own schemes, independently of examination requirements. They maintain that any system of examination insensibly *prescribes* the teaching by inducing preparation for the examination, and must be cramping both to pupil and teacher.

In the report of the hon. secretary of the Art Teachers' Guild made in December, 1909, it is stated that "several

large schools are now no longer taking the examination of the Royal Drawing Society, but depend upon the art teacher's own initiative in working out the drawing syllabus individually prepared to suit the particular need of each school". There are, on the other hand, some teachers who prefer to have graded examinations by which their pupils' progress can be tested.

Exhibitions.—Exhibitions of the pupils' work and criticism by the art master or mistress are helpful. Visits to exhibitions where the work of other schools is exhibited may be made with advantage, but competition for the sake of award should be discouraged.

Inspection.—To be of real use an inspection of work should always include a personal interview with the teacher, though not necessarily with the pupils. The inspector should be not merely a critic, but a teacher of some practical experience in class-work, and should be able to advise as to methods and as to the syllabus presented. The following quotation from a report of the Scotch Education Department is noteworthy: "Their Lordships attach special importance to the principle of associating the teacher with the inspector, as in effect a co-examiner whose opinion on the work of his own pupils deserves the weightiest consideration".

Pictures and Lantern Slides.—From one school comes the suggestion that schools might combine and buy lantern slides of pictures, sets of such slides being sent to schools as required. In one town there are circulating sets of framed pictures, each set of pictures remaining at a school for six months. The report from another town says that the experiment was tried there, but that, owing to breakages, the circulation had to be given up, and the pictures are housed in the Art Museum.

Visits to Galleries, Museums, etc.—The perception of

what is fine in pictorial art, in sculpture, in architecture, must be trained by visits to galleries, museums, churches, etc., and by showing reproductions of good pictures. The elder girls might be encouraged to make simple charts which will serve to link the work with the workers and the historic periods to which they belonged. Excellent use may be made of post cards of the best pictures if they are arranged in chronological order on the left-hand page of an album with a short account of the painter on the right-hand page. Girls might be encouraged on leaving school to make such a history of art for themselves. It should not be made in a hurry, but should be gradually built up as new countries are visited and first-hand acquaintance made with famous artists.

In some schools the art teacher stimulates interest by putting on a board post cards representing the work of one artist. The pupils are told a few facts about the artist and they are encouraged to study the representations in their free times. At the end of a month the post cards are changed and reproductions of another artist's work follow for another month. In this way, the pupils have the opportunity of getting to know in the school year the masterpieces of nine famous men.

But helpful as all this is, the place of art in the school curriculum will never be truly valued while it is regarded merely as a relaxation from more strenuous work, or as an aid to other studies.

Its real educational value lies in its power to develop and train a mental and spiritual faculty. If, as one has said, " the great want of the English middle class is the love for and appreciation of what is beautiful," the responsibility, in some measure at least, must lie with those whose profession it is to educate and train the children. Beauty, to be loved, must first be perceived, and the

primary object of all art teaching must be the training in the perception of the beautiful. No barren acquisition of technical skill will suffice.

The teacher must be artist *plus* teacher. It is possible to teach any child of good average intelligence to draw, but this is only one side of the art master's work. For we have come to recognize that though one of his functions is to teach how to record and produce, that is not his only duty, nor indeed is it, in many instances, his most important one. Many pupils in our schools can never become art workers, but many, if not all, *may* become art lovers, and to inculcate and foster an appreciation of what is fine in art is more truly useful than to drill an unwilling hand to mediocre performance.

The wise teacher will soon discriminate between those in whom a gift for expression may be cultivated, and others, whose time, though not wholly unoccupied with practical work, will chiefly be spent in learning to appreciate and enjoy. To secure to each pupil the training best fitted to his or her needs, we would urge that all children above the infant stages should be classed for art work not in form order, but according to their artistic powers. Those who are gifted require before anything else a sound elementary training in practical work. Those with little or no gift for expression may yet have their perceptions quickened and their tastes improved. Such a classification is less desirable in the lower or junior school. To the little child whose chief interests come to him through his sense of vision, drawing is a language revealing the thoughts which his limited vocabulary cannot put into words. Most children possess some natural capacity for this picture writing, and so long as the child can express himself better by pencil or brush than in words, he should be not only allowed but encouraged

to use this means of mind-expression, whether it be in connexion with his nature lessons, his history, geography, or languages, but except in the case of the born artist these will be literary exercises, and are not to be treated seriously as art work. They are, as one has said, "the tell-tales of the mental image, when it is faint they are nebulous, when it is confused they are chaotic". But although little artistic emphasis should be laid on this graphic expression, it is through it that the art teacher will find his best opportunity for directing the young eyes to further observation, and from the study of the child's own methods must arise any systematic teaching of drawing in the early stages.

What do these show? A direct touch, and therefore rapid execution, a love of bright and usually crude colour, an interest in the particular rather than in the general. Above all, living, moving things interest him. His drawings, which are invariably done from memory, or memory and imagination, are a combination of mind-knowledge and eye-knowledge, are statements of what he knows or imagines about a thing and not a view of a thing as seen from any given point. His world is made up of separate objects, he is unconcerned with their order or position except as they are related in action.

These are some of the facts which we gather from the child's earliest unaided work, and from them we deduce certain principles for our guidance in teaching.

That the earliest class-drawing should be organized exclusively as memory or imaginative work; that no great time should be spent on any one drawing; that fresh trials should be made rather than repeated efforts to improve the work; that subjects for study must be suited to the interests of the child; that colour should play a large part in a child's drawing lessons; that crude

colouring must be expected and even allowed; that local colour only will be noticed at first, and that very gradually may attention be drawn to light and shadow and then only in its broadest aspects.

Large Scale Work for Children.—The teacher must accept a more or less crude execution and should insist on the scale of work being large. This is the one direction where the child's own methods should be disregarded, for the scale on which he usually draws is small. This, however, may be due less to inclination than to economy on the part of his friends with regard to gifts of paints and paper—a half sheet of note paper necessarily limits one's field of operation! At anyrate he takes very readily to a large scale in the class-room, and in the interests of his eyes it should be insisted on apart from the power which will be gained by an early use of the whole arm instead of the mere hand-strokes.

It is hardly necessary in these days to enlarge on the harmfulness of over-instruction. Children's drawings should and must be childish. The teacher must not be exacting; he will be content with small achievement, and parents must be content too, and not hinder true progress by a desire for an unwarrantable perfection. Some will ask, "But is not this going along the lines of least resistance and making the drawing lessons all play-work? When does the real business of teaching begin? And if, in our more modern methods we are making no demands on that "capacity for taking trouble" which is the very backbone of character (if not of genius), these questionings are justified. But do we make no such demands? In the case of the average small child we would answer that even if we did not demand effort it would be made. So long as his early scribbles remain un-noted by any sympathetic eye, the

desire to do better, except in the most talented, will be small; but every teacher knows that, as soon as the child is working in a class, whether from emulation or desire to please, or simply in obedient response to suggestion, the eagerness and solemnity of his efforts are often quite pathetic and invariably spontaneous.

Amongst older pupils, and especially we fear in the case of girls, there is too often a tendency to desire accomplishment without winning it; but whether this is a result of a change in the manner of our teaching, or through some loss of "grit" consequent upon a more lax up-bringing in the home, we can hardly yet judge. Possibly in our anxiety to keep at bay the mannerism and want of freshness which always lurk about prolonged efforts in youthful drawings, we are allowing the "sketch" too often to take the place of the "study". Anyhow, the folly of impatience must be made evident. Much may be done by comparison with the results obtained by more earnest workers and much also by personal example.

Some children will not take pains; there are more, however, who are not unwilling, but they need to be shown how. If, for instance, the correct drawing of a chair or a school-desk has been the despair of one whose brain has not yet awakened to the form which his eye really sees, and the teacher merely demonstrates the correct view by drawing silently, he will not appear to the pupil to be taking any pains, but if he really wants to help the pupil to help himself he must put into simple, understandable words the mental analysis that goes on all the time he is working. He must take the pupil with him step by step, showing how if he will but take the trouble to note the relation and direction of lines—and here he must be shown *how* best to note them—he will get his perspective right without any reference to ready-made rules, and

when the chair finally appears as a chair that might be sat upon, he will probably exclaim, "Yes, I see; I didn't know you had to take all that trouble". No help is so valuable as this individual helping, not so much to record, but to make the eye and brain work together in order to know *what* to record.

Desirability of Small Classes.—In big classes it is obviously impossible to give very much individual help, and if the big classes *cannot* be made small, best methods must give place to second best. The nearest approach to individual talk is class talk to a group who are seeing as nearly as possible one view, and if the actual drawing of an object or objects be made a memory exercise, the class can stand in a compact mass to observe it, so that directions for observation can be made almost as to an individual.

Choice of Subjects.—Thought should be exercised in the choice of subjects for representation. The younger the pupils, the greater should be the interest attaching to the object itself. As power grows the student will become interested in other considerations, in values and harmonies, but always, meaningless or ugly things should be avoided.

Media for work should be as varied as possible, coloured chalks, modelling clay, and the brush for the youngest classes, charcoal, water-colour, pencil, pen-work, oils for the more advanced.

Plaster casts have their uses; care should, however, be taken in their selection. Where nature can easily be studied at first-hand, as in groups of fruit, leaves, flowers, etc., it is a pity to substitute colourless clay. Life work cannot, for many reasons, be carried to an advanced stage, but much good preparation for more advanced work may be done. There will be no lack of volunteers for models

amongst girls, if the poses are short; school plays will provide changes of costume, and the varied studies made are useful in sketch club compositions.

Outdoor Work.—In summer the drawing classes should be held whenever possible out of doors. The school buildings will provide better opportunities for the study of perspective than the smaller objects which a class-room necessitates. The garden should yield plenty of scope for the study of plant-form, and if the school is lucky enough to possess some pet animals, so much the better. Attempts at depicting objects in motion should be begun early. School games afford excellent chances for studying movement, which can afterwards be recorded from memory. Children should be encouraged to make constant use of the sketch-book, and much freedom allowed in the choice of subjects for any work done out of class. The important thing in all drawing is that the student should have a clear idea of what he is trying to secure. Is it the delicate form of a flower or a shell? Make him understand that to express these by a coarse blur is an offence and an impertinence. Is it the broad mass of shadow sweeping across the meadow? Make him see that the blades of grass are irrelevant to his purpose. Is it the graceful pose of the child at play? Ask him to consider how far the elaborate drawing of the child's boot buttons will help him! The pupil must learn his human limitations. In a five minutes' sketch he must learn to choose between the boot buttons and the pose, between the little facts and the big. The failure of so much drawing to become Art is mental failure; the failing to perceive the beautiful, to select the essential. Passing effects will not wait for laboured drawing. The mind must be swift to note, and a few patches of colour truly recorded will be worth more than all the lifeless work

which was once terminally mounted and framed by the too fond parent. In classes where very little talent for drawing exists this noting and recording of colour alone should sometimes suffice for the lesson. Its purpose will be served if in experimenting with the matching of subtle colours, a more intimate acquaintance with the colour-box is gained and the beauty of what has hitherto perhaps been unnoticed, is realized. A single bit of common grass in flower may baffle the drawing powers of many, but the tender harmonies of its colour once felt must have a refining influence on the eye of the beholder.

Colour Harmonies.—This recording of beautiful colour not only brings us into closer touch with Nature but gives us a basis of helpful suggestion in the design class.

Design.—In a girls' school the design work should in its application be related to embroidery and other needlework, to book-binding, wood-carving, etc., so that the relation of the ornament to its purpose may be felt. These exercises afford excellent opportunities for leading girls to recognize the principles which underlie all good ornament—rhythmic repetition, symmetry, balance, restraint, etc., while the actual making of something that can be used afterwards not only stimulates interest but affords a relaxation from the concentrated mental effort so necessary to success in pure drawing.

Special Class-room for Drawing.—A separate class-room, specially adapted as to light and general arrangement to the purposes of drawing, is indispensable to the most successful teaching. Easels should, of course, replace desks, and where space is limited it is helpful to have the chairs and easels of different heights, as this enables the girls in the back rows to have a good view of groups, etc. The room, while necessarily a work-room, should be made as beautiful as possible.

Mr. Ablett.—The work of Mr. Ablett in systematizing the teaching of drawing and helping to make it, as it now is, an integral part of general education, must be here acknowledged. Many teachers are of the opinion that he is now laying undue stress on the training of the artistic sense in children through that form of memory and imaginative drawing to which he has given the name of "Snap-shot Drawing". It is contended by such teachers that the *over* use of such drawing tends to make it unscientific and superficial, and that there is a consequent loss of accuracy and thoroughness and definite observation. However much opinions may vary as to this, all teachers must be grateful to Mr. Ablett for his insistence, at a time when there was little or no method in the teaching of drawing, that as a power of expression drawing is as possible to children as writing, and that when properly graded and taught by sympathetic and intelligent teachers, can be made a class subject of interest to the children and of great educational value.

A. E. ESCOTT.
M. A. DOUGLAS.[1]

[1] I wish to acknowledge the great help, in the part of the paper for which I am responsible, given by Miss Prosser, Art Mistress of the Godolphin School, Salisbury.

CHAPTER XV.

MUSIC.

THOUGH music has of late years made a real advance in public favour, its place as a subject in the curriculum is as yet undetermined. Too many heads of schools are still indifferent to, or uncertain of, its claims. The teachers, on the other hand, in no way lack enthusiasm; where possibly they err is in too insistently pressing the claim of music as supreme, not realizing that music is one of those subjects which is equally "good servant, good master".

The question to be considered is whether the essential principles of education would not be furthered by replacing subjects now overloading the curriculum by subjects directly bearing upon music. If music were made a class subject, at least in the lower forms of the school, we venture to say that it would prove invaluable in the general early training, and would economize time in the later and fuller years of school life.

The information compiled from particulars received from twenty-four typical schools is as follows:—

Piano is taught, as an extra, in	22	schools.
Violin „ „	18	„
Solo-singing „ „	15	„
Class-singing, as a general subject, once a week in	18	„
Class-singing, as a general subject, twice or more a week in	4	„

Sol-fa notation leads on to staff notation in	6 schools.
Rhythm is mentioned as a special part of the curriculum in (Central Foundation, Clapham, Godolphin, North London Collegiate, and Winchester)	5 „
Under the heading "Rhythm" are grouped beating time, marching to music written on the blackboard, elementary sight-singing, fitting words to piano music, marking phrases, etc.	
Special opportunities for musical information by means of lectures, etc., are given in	17 „

Other efforts have been made by individual schools; for instance the use of folk and patriotic songs, which is evidently on the increase; special competitions in singing these folk-songs, part songs and rounds, managed entirely by the girls themselves; simple songs sung by the whole school; musical clubs meeting once or twice a term, when one girl reads a paper on some musician, and others illustrate his works; small school concerts arranged by the girls themselves, at which only girls perform and act as audience; a music lending library containing music (invaluable for sight-reading) as well as books about music.

Other points of interest in the returns made are:—

1. The grading of singing classes according to ability rather than place in school, as is done at Milton Mount College.

2. The teaching of theory and harmony as class subjects, either throughout the school, or with certain limitations as to forms and alternative courses, as at Milton Mount College, St. Paul's Girls' School, the Godolphin School, and Wycombe Abbey.

3. The teaching of transposition, with the oral recognition of chords, their inversions and resolution, as specially taught at the Kensington High School, where sight-singing is taught through the school in short and frequent lessons, with sol-fa preceding the staff notation.

4. The formation of special school choirs, as at the Central

Foundation School, Eltham Secondary School, and North London Collegiate School.

5. Periodical examination of the general musical work of the school as at St. Paul's Girls' School, the examiners' and teachers' reports on each child's work being carefully filed for future reference and comparison.

6. The formation of school orchestras and classes for ensemble playing.

7. The giving of definite rhythmic training. This is done at the North London Collegiate School in the gymnastic as well as in the singing classes, while at the Godolphin School, Salisbury, short lessons in rhythmic sight-singing are combined with marching to short phrases of varying time-values, and at the Clapham High School rhythmic games and marches are taught in the kindergarten.

Two of the best schemes for class-work appear to be those of the Central Foundation School and the Kentish Town Secondary School.

In the former, voice production and breathing are taken at each singing class; and national songs and choir-music are sung occasionally in the winter term by the whole school together, for instance, on a wet day instead of playing games. In the Lower School the sol-fa method is used at first, being gradually exchanged for the staff notation at the top of the Lower School; rhythmic training is definitely given by beating time, marking phrases, and fitting words to music; and music rehearsals are given by pupils to an audience of their schoolfellows.

At Kentish Town School the class-singing is given in three divisions, the work being graded as follows :—

Division I (Forms I-III): Sol-fa reading in major keys and the easier minor keys; unison songs and rounds.

Division II (Forms IV and V): Easy sight-singing both in sol-fa and staff notation; two-part songs, rounds, and national songs.

Division III (Form VI): Breathing and tone exercises. Elements of music in sol-fa and staff notation; sight-singing in both notations; two and three-part songs, national songs, etc.

Here two criticisms are suggested: (1) The sight-singing from the staff notation appears to be unduly delayed. (2) Simple tone production and breathing should be taught earlier and form part of the work of all forms.

Generally speaking we still tend in our schools to be too mechanical, and there is too little provision for the rhythmic side. Moreover, far more might be done in the way of correlation. The opportunities given by rhythmical training for the incorporation of self-expression, spontaneous yet restrained, with that natural inheritance of all children—sense feeling—cannot be overestimated. Æsthetically, we need to cultivate to the fullest extent general musical amenity, and a sense of harmony, rhythm, and balance applied to life as a whole. To secure this, nothing is more helpful than frequent and collective training of this kind, to which all young children are particularly responsive.

It may be desirable to consider some workable scheme in which might be incorporated most, if not all of what has been found by experts to be desirable and helpful. The musical work should proceed from some definite centre. Scope for this is ready to hand in the singing class, since almost everywhere some provision, however meagre, is made for teaching singing as a class-subject.

Definite training in sight singing, ear training, and rhythm gives a groundwork for all musical study, and in many cases is of more value than the individual practice time. Much more frequent, even if shorter, lessons should be arranged. There is very little doubt that, however

the earlier steps of sight singing may be taught, definite sight reading in the staff notation should be taken early. Musical dictation has been found to be of the greatest help. For a time even the purely mechanical reproduction of notes may be found useful, as well as writing down the notes, intervals, and chords, from the sounds, by ear. Phrasing needs to be more definitely taught, both by breathing at the right places when words are sung, and phrasing music without words. Much help is to be obtained from dancing, and especially from the old dance-steps, where the phrase-ending marks change or repetition of step. Even ten minutes a day given to such dancing, of which the steps are simple and easily remembered, will develop a sense of rhythm and easy freedom of movement in large classes of fifty or more children taught together. This free-dancing, marching, and measured movement of all kinds is not only of great value physically, but most important as a factor in character training, since it gives scope both for freedom and self-control. The system invented by M. Jacques Dalcroze is largely in use abroad, and is found very helpful.

Musical ear-training should be correlated with pronunciation both of English and foreign languages, and much useful work may be done by the correlation of music with the rhythm and metre of verse. Young children often have a real gift for discerning rhythmic patterns in words, and it dies out for want of encouragement, whilst the suggestion often arouses enthusiasm where least expected. The revival of national and traditional songs, which is definitely taking place, may do much to supplement the interest of history as well as to stir up a spirit of patriotism.

Tone and voice production should form an integral part of all music training, no less from the teachers' than

from the children's side, and in both class and solo singing ; so also should systematic breathing exercises, which are as important to health as to music.

The power of visualization may be strengthened by the association of sound with colour. For this purpose the use of a graduated colour scale may be recommended—such a scale, for example, as that formulated by Prof. Tudor-Hart in a paper on the analogy between colour and sound read before the Psychological Society of Paris, in May, 1908.

In the development of individual work, attention must of course be paid to technique, though it should be relegated to its proper position as one of many means to the single end of artistic expression. In instrumental work much time is saved by the preliminary technical training being done in class. When private lessons are given they should be correlated as far as possible with class work. With young children the plan of small piano classes, given three or four times weekly, not only obviates the difficulty of inferior and so-called cheaper instruction at home, and economizes time and money, but produces better results owing to the greater interest aroused by work done collectively. With more advanced pupils also, the classes in harmony and musical form should as far as possible have a direct bearing on the instrumental work. In schools where individual lessons are given, it is a great advantage if the music mistresses form an integral part of the staff, and so have an opportunity of knowing the capabilities and general standard of work of the children in other directions.

Examinations.—Generally speaking, the syllabuses of many public bodies need modification and reconstruction. Certain examinations are already designed with the express purpose of cultivating in children a love of music,

and of making it a real motive force in life. Ear-training, sight-reading, and transposition are brought into prominence while the greater variety of carefully chosen music set for performance develops musical expression and individual interpretation. This will ensure a greater breadth and freedom in musicianship generally. Discerning inspection of the music in school by a competent outside authority would prove of extreme value.

Such, in broad outlines, is a scheme suggested as likely to answer to the needs of all children. Under it the gifted would develop unhindered, while the less musical might find some unexpected interest which would develop a power likely otherwise to atrophy for lack of cultivation.

By aiming at the development of appreciation rather than of technical ability, individual work would largely resolve itself into a process of initiation, and into the establishment of conditions under which any music latent in a child would respond to outside impressions.

Incidentally, too, all ear, eye, and body training serves to intensify and quicken the more purely mental processes, so laying the foundation of abstract thought, whilst, by means of correlation with other arts where possible, an outlet for all æsthetic and imaginative work may be found.

It is probable that the greater time allotted to music in the school curriculum would be at least counterbalanced by the later gain resulting from the blending of artistic impressions. And further, by the wider scope given to individual development we should prove the truth of the old Greek belief—good art should produce good ethics.

BEATRICE HARRIS.

CHAPTER XVI.

HANDWORK OTHER THAN PLAIN NEEDLEWORK.

To summarize with any accuracy the work of our girls' schools in this subject seems to be an almost impossible task. In the first place, comparatively few schools make any attempt to cultivate specially the use of the hand, in any forms above the lower school. Usually this kind of work ends with Form Lower III, frequently even in Form II. Such schools as do attempt to carry definite training of this nature into the upper school are nearly all in the experimental stage, each doing what it can, but limited on all sides and dependent for the nature and quantity of the work on local conditions, finance, and the chance of having on the staff a mistress interested in one or more crafts. With five or six exceptions all classes so formed are optional. About three hundred inquiries were sent out; of the answers something like fifty contained references to handwork other than needlework: in nearly every case the classes were only attended by a fraction of the school. The main idea seems to be to provide the girls with a healthy and interesting hobby. Most of the work seems to be done in boarding schools: in four or five of these such as St. Katharine's and St. Leonard's, at St. Andrews, Scotland, Wycombe Abbey and Queen Anne's, Caversham, much time is devoted to it. St. Katharine's (girls under 14) has a complete scheme, and so have two day schools, though these do not include

in one case Forms UV and VI, and in the other Form VI. The crafts taught are as follows:—

Embroidery	.	in 12	schools
Woodcarving	.	„ 10	„
Clay-modelling	.	„ 9	„
Carpentry	.	„ 7	„
Leather-work	.	„ 5	„
Metal-work	.	„ 5	„
Cardboard-modelling		„ 5	„
Basket-work	.	„ 4	„
Marquetry	.	„ 2	„
Enamelling	.	„ 1	„
Working plaster tiles		„ 1	„

Probably there are several schools that include clay-modelling (for example) as part of their art course or in illustration of history and geography, who have not considered this sufficiently definite to return it as handwork. But even allowing for this, it will be evident that the extent to which hand training forms part of the content of our girls' education is lamentably small. At the same time it should be pointed out that plain needlework is taught in almost all the schools, at any rate in the junior forms, and that in most of the newer secondary schools under local authorities it is an integral part of the curriculum right through the school. In some of the high schools this is also the case, one or two carrying it to an advanced stage, the work of the Worcester High School being particularly notable.

Before discussing the question of the desirability of including hand training in our school work, it will be well to distinguish between two schemes that have different objects and consequently different methods. The first has for its aim the supply of a useful hobby to a certain number of girls. In choosing crafts suit[3] for this purpose, the beauty and utility of the fini

article, and the possibility of girls reaching a fairly high stage of technical skill, are the determining factors. In this case quite small classes are possible. The second scheme aims at giving definite hand training to every girl in the school by means of a carefully devised scheme of ascending difficulty, and in this the mental training by means of the hand is the predominant consideration, though neither utility nor beauty can be neglected. In this case the limitations imposed by classes of 25 have great weight. In what follows, it is the second scheme that will be considered.

Why should we teach handwork in our schools? Why add another subject to our already overcrowded time-table? We have drawing, practical physics, and chemistry, some of us even have cooking and laundry; surely the hand plays a large part in all these? Now these objections must be met. We must show that a craft combines in itself educational values as yet unsupplied, or we are merely advocating a fad, an ornament, an "accomplishment" such as soothed the souls of Miss Pinkerton and her young ladies. The reasons for attempting such a course seem to be mainly these :—

1. Assuming for the moment that we ought to train the hand, which after all is as distinctively a human characteristic as is the brain of man, we believe it is best done by *making* things. Man made things before he made pictures; all of us can make things, not all of us can picture them, and while drawing is in part a craft, its function in our general education is something much more. Indeed the modern tendency is to emphasize in our schools its artistic and appreciative side rather than its technical skill. The science laboratory too, though it also has its craft side, fails to give the complete training needed. Possibly two or three children working at science

as Professor Armstrong would have them work might secure all the hand training needed (apart from the question of art), but it is quite certain that classes of twenty and twenty-five cannot. Cookery and laundry, again, are a comparatively rough kind of handwork, and though valuable for other reasons, would never be chosen as a means of producing skilled use of the fingers. We are then thrown back on special classes for teaching the minor crafts.

2. But why train the hand at all? Will not everyday life do all that is needed? We need only look around us to see that it will not. The man who can *do* nothing has become an ominous sign of the times, only woman's practical instinct has held her back from the same road. Even as it is, do we not know only too many highly intelligent women who, while valuing at its fullest that mental culture won for us at so much cost, deplore the over-emphasis the struggle gave to pure mind-training, and who personally would sacrifice a little of the Calculus for the manual skill of a Japanese child? But apart from the question of one-sidedness, there is also the fact that by training the hand we train the mind. In many children (though not in all) it is the best way of training the mind. A properly made box involves at least as much thought as a rider in geometry, and is much more likely to get it.

Physiologically too it is true that skill with the hand reacts on the brain and increases its activity.

Certainly there are a few in every school whose minds are not most susceptible through the gate of the concrete, but the value of hand training comes to them in another way, on the moral side.

3. Only by *making* things do the majority really observe them. This was Froebel's idea, and it is true at all ages. He followed this with another great truth, that

to make a thing added a new world to the child's horizon. These two objects almost cover the whole ground of education.

It may be said that drawing teaches observation. This is true, but it does not teach it so directly, and it only teaches observation with the eyes. It does not teach it so directly because in drawing the mind is occupied with two processes, viz. observing and representing. The latter involves the translation to a convention; it is one thing to observe, a second and harder thing to express the observed object in two dimensions. It teaches observation only with the eyes, hand work trains the sense of touch also. A volume might be written on this neglected sense.

4. Last but by no means least comes the moral value of the subject. This has two aspects, the individual and the social. Of the former kind I should put first the supreme training in accuracy involved in handwork. In nothing else does slipshod work so obviously bring its own punishment. The disadvantage of a slurred and blurred idea of the causes of the monsoons is by no means evident to an average school-girl, she cannot look into her own mind and see the result of shirked thought; but the result of a carelessly drawn right angle when binding a book is only too patent to her disgusted self. Another advantage that is by no means to be despised is that the work itself, apart from results, is a pleasure to most girls. The delight in mere mind-using is the privilege of the few, not all can joy in the solving of a useless problem in mathematics; to one of this kind there are ten who derive real pleasure from the exercise of their fingers. No stimulus is needed here, the work itself is a delight. Surely it is well for us all to know in some form or other "the joy of working".

Lastly comes its value in the social life of the school. Often the girls who excel in nothing else excel in handwork; this is good for them and for the others. It is true that the average clever child is also clever with her hands, and many a dull child is dull both ways, but the number of girls dull at books who are good with their hands is large enough not to be neglected. It is also very good for the girl who carries all before her in the class-room to find out she is not quite the universal genius she imagines, and to learn something more nearly approaching the all-round value she is likely to find her own in after life. A failure in the handwork class often calls out from a clever girl qualities of perseverance and powers of "grinding" that never get exercised in the ordinary school work. She learns that not everything can be done with scampering ease.

Our next inquiry must be whether a complete and compulsory course is necessary. Would not optional courses for those who desire them meet the case? The reasons for a complete course for *all* girls are very strong:—

1. Children trained in the lower school certainly gain the quickening of intelligence that handwork gives and are not likely to lose it even though the actual work ceases. But they do lose the actual skill acquired, and, by leaving off just at the age when full control of the fingers might be obtained, miss much that would be a help in after life.

2. By treating the subject as a serious one, worthy of the attention of upper forms, the tendency to regard intellectual achievement as the criterion of success is lessened. At the same time we put highly skilled manual work in its proper place of honour among man's labours. The present over-emphasis on brains as the main factor of success is not true to life and gives our

girls and boys a false standard as to both facts and ideals.

3. If the classes are optional those clever but physically clumsy girls referred to above are not captured, and the lesson is lost both to them and the school.

4. There is great value in a hobby for girls at this crucial age, viz. fourteen to twenty. School girls may be divided into two classes, those who read too much and those who do not read at all. Both sets would be better for the interest of a craft.

Assuming then that some hand training is to become part of our curriculum, what is the best form for it to take? Of the eleven crafts mentioned above as appearing in the curriculum of one or more schools, which are the best? Shall there be several crafts in each school or is it best to do one and work for a high pitch of excellence? In making a selection, there would seem to be five essential factors:—

(*a*) The crafts chosen should be suitable to the varying ages of the girls and should form a course of increasing difficulty.

(*b*) Some crafts demand more time than others, e.g. clay-modelling, owing to the necessity of finishing the model at one sitting, requires a lesson of at least one and a quarter hours, while something can be done in cardboard even in forty minutes. The time at our disposal will therefore determine our choice to a large extent.

(*c*) We must in most cases keep down expenses. A few happy schools can afford to treat this factor with a lordly indifference, but with many it is the determining one. If so, we must either choose a craft whose initial outlay is small or one where the finished article commands a ready sale. Among the former class is cardboard modelling, of the latter embroidery is pre-eminently saleable.

(*d*) The educational values need important consideration. Other things being equal the craft that requires more thought and planning is superior to one that rapidly becomes mechanical, or in which faults are easily rectified. Here book-binding

excels basket work or the plastic arts, and carpentry probably excels all.

(*e*) In planning the course there is more to be said for variety than for extreme technical skill, just as it is better to use varying media in drawing. This is especially the case in the junior school. It should be stated, however, that some teachers prefer keeping to one craft and if possible bringing the technical skill to a perfect stage.

It may perhaps be well to consider next the varying crafts individually and if possible discern their respective values. The two essentials to any course would seem to be *cardboard-modelling* and *clay-modelling* or some equivalents. The one demands absolute accuracy of manipulation, the other uses a plastic material and is almost pure finger work. They may be said to cover almost entirely the essential ground, they lead naturally to more advanced work and correlate well with the ordinary school subjects. Thus cardboard-modelling, while easier and more various in its adaptations than book-binding, leads naturally to it, and clay-work forms a basis for the plastic work of the advanced art classes. Clay-work is the only craft that uses fingers directly without the intermediate tool. Cardboard-modelling correlates well with geometry and clay-work is endlessly useful in history and geography teaching. Book-binding demands extreme accuracy in measurement; in no other work does a small error in an angle produce such disastrous results. Order and neatness in working play a large part in its success. Besides this it involves mental training of a high order, for every detail must be thought out beforehand and even visualized as the finished result before a line is drawn or a cut made.

Of the others, two that fulfil our five conditions are suitable for girls in the upper school, viz. *wood-carving* and *embroidery*. The latter may perhaps be begun

in the middle school, but really skilled work in either is not suitable for young children, and since in these a good technical skill can be achieved, it seems best to take them at a later age. Both crafts are an artistic training of a high order, and both should be treated historically. The girls of course should generally make their own designs, but if based on those of a definite historic period, the artistic training is much greater than it would be otherwise. Embroidery in particular lends itself to such treatment, and a course in which it is treated systematically, the stitches being taught in order of difficulty, and at once used for designs based on those of a period primitive or complex as the case may be, is a real education in art as well as craft. Its value too in giving life and reality to the history lesson can hardly be over-estimated. Woodcarving adds to this the demand for the highest technical skill. The value of both to the design classes in making clear the relation of the design to the material in which it is to be executed is sufficiently obvious.

Of the remaining crafts, *carpentry* would seem to be very desirable, but in many schools the expense would be prohibitive. The demand for a carpenter's shop in a girls' school would probably be met by a derisive "What next?" None the less, wherever it is possible (one County School uses the workshop of the neighhouring boys' school) it would be very useful, especially for elder girls. The child is content with toys and models, the girl wants real things. A girl who has made a real table knows the equivalent to the child's joy in a toy cardboard chair, "I made it my own self". Added to its demand for absolute accuracy, carpentry might be a training in artistic form of the severest order, well worth any money spent on equipment.

Leather-work and *metal-work* seem to have possibili-

ties, especially the former. The noise of the latter, and the expense involved are, however, serious handicaps. Leather-work may prove a means of artistic expression to a girl whose drawing powers are limited. The same remark applies to *enamelling*. *Marquetry* demands much skill, and even more patience, but the time necessary to produce fine work makes it only possible as an optional class. Its artistic value is sometimes denied. *Basket work* has been much talked of lately. It produces effective results, needs patience and some manual skill, but easily becomes monotonous. As taught in one school at least, it has considerable mental value as a training in form, but this involves combining it with drawing and modelling. The shape is modelled in clay, drawn, and coloured, before the basket weaving is begun. So far this has only been done in the junior school; whether it would prove inadequate in educational value, and monotonous in execution in the hands of older girls remains to be shown. It rather seems as if some other craft would best replace it in Upper and Middle Forms.

One school reports an experiment with plaster tiles. It has the merit of cheapness (a merit supreme in the eyes of some of us) but lacks the finger work of ordinary clay. It does not demand the precision of work in wood, since an error can be corrected.

To these notes on the crafts must be added a few remarks on correlation. Handwork loses much of its value as it loses touch with the ordinary school work. Every one of the crafts mentioned can be connected with one or more of the ordinary school subjects. Constant co-operation between the craft mistress and her colleagues is essential. She must know what each form is doing in history, in geography, in geometry; she herself must have no mean knowledge of history and of art.

If she does not teach the drawing she must keep in constant touch with the mistress who does. On the other hand, the history teacher will do well to know what the girls are doing in the handwork class and will use their skill to illustrate her lessons; pencil, brush, clay, cardboard, needle, and chisel all help to make the history of the past a living reality, but to do this the connexion between the work of the members of the staff must be very close. The great thing is to get it started; one enthusiastic member on the staff can set the ball rolling. Handwork is catching, and mistress after mistress seizes the opportunity to make her subject real and concrete.

Many objections will no doubt be made as to the possibility of introducing a new subject, however desirable. Of these the three most obvious are:—

1. *Want of Time.*—Undoubtedly something must go to make room. Each school will determine for itself what it shall be. Some may forego the luxury of an extra language, others may cut down their mathematics. But once convinced of the value of hand training we shall not hesitate. Something can be done even in one period a week, though clay-modelling, as mentioned before, needs more, and some other crafts might be better for two periods.

2. *Pressure of Examinations.*—There is only one answer to this—abolish external examinations; the time is coming, let us hasten it.

3. *Some Parents will call our Handwork Play.*—This is a case for the school to have the courage of its opinions; the prejudice will die faster than would be believed. In short, to the teacher inspired with faith in her mission all things are possible. Once convince the Heads of schools that the neglected member is worth cultivating, nay more, *demands* it, if our education is to be worthy of its ideals, and means will be found to secure its training.

I have added as an appendix a sketch of a scheme made by a mistress who has been experimenting for some three years in devising a school course. It is merely

inserted as a basis of discussion among teachers; every mistress would wish to alter it in some direction or other, some to dissent from every article of it. If it is sufficiently provocative to rouse interest, the object of its insertion will be achieved.

CHARLOTTE M. WATERS.

APPENDIX.

OUTLINE OF A POSSIBLE SCHEME OF HANDWORK IN A GIRLS' SECONDARY SCHOOL.

Forms I and II.—Handwork of primitive man, worked in conjunction with a history course dealing with prehistoric civilization.

(*a*) *Life of the Tree Dwellers.*—Articles made: baby's cradle (children collect twigs, soak them, weave them, tie with bark and line with leaves). Club from small branch (not full size). Plasticene map of country of the tree dwellers (made from description). Basket made from rushes only (material got by the girls).

(*b*) *Life of Cave Men.*—Articles made: utensils of cave men modelled in clay. Map of country as before. Skins stretched and prepared. "Birch bark" baskets made of brown paper (paper folding and cutting). A basket woven on frame showing warp and woof, using inner bark of tree found by children.

Many other articles could be made, the essential being to use as far as possible only the materials obtainable by primitive man. The course is continued up to the stage of the organization into tribes and the election of leaders. Time required, forty minutes a week, and usually some of the history lesson. Drawing also correlated with the work.

Form L. III.—Cardboard-modelling and clay-modelling. Time, eighty minutes a week. Correlated with geometry and any other available subject.

Form U. III.—Bookbinding and embroidery. Time, eighty minutes.

Form L. IV.—Bookbinding and embroidery. Time, eighty minutes.

Form U. IV.—Bookbinding or embroidery, forty minutes; carpentry, eighty minutes (the extra forty minutes could

possibly be deducted from plain needlework at this stage).

Form L. V.—Bookbinding or embroidery, forty minutes; wood-carving and carpentry, eighty minutes.

Form U. V.—Choice of one of the three, or any supplementary craft.

Clay-modelling is not included above L. III. as it would be taken in the art course.

The actual time given could be supplemented by optional work out of school hours.

CHAPTER XVII.

GARDENING.

IN order to arrive at a general idea of the conditions under which school gardening is now being carried on, information has been collected from twenty-six schools in different parts of England, one in Scotland, and one in Wales—these schools varying in type from the luxurious modern boarding-school with extensive grounds, to municipal secondary schools in the heart of big towns where all conditions tend to make gardening difficult. Since the subject has hitherto received little attention the following statistics may be of interest:—

Schools not attempting gardening . . .	13 per cent.
Percentage of girls in remaining schools who garden, 10 to 95 per cent, average . .	42 „ „
Percentage owning individual plots, or sharing garden between two	45 „ „
Schools in which gardening is regular part of curriculum	one only.
Schools in which some definite instruction in gardening given	42 per cent.
Schools in which botany and nature study definitely correlated with gardening . . .	25 „ „
Mistresses responsible for gardening with any special qualifications	18 „ „
Schools with special types of garden and experimental plots	28 „ „

Girls who have taken up gardening as profession, 3 individuals.

The chief object in encouraging school gardening has been given as an outdoor recreation for delicate girls as

alternative to games; as being merely supplementary to work in botany; or as, in the majority of cases, to encourage a love of flowers and gardening, and thus to provide an interest after schooldays are over.

As a general criticism it seems not unfair to say that gardening has scarcely been organized in most schools up to the present time. There is, no doubt, a great deal to be said in favour of allowing girls to develop interests and hobbies of their own, unaided, and experienced teachers have pointed out that up to the age of about fourteen nearly all children have a natural desire to garden. On the other hand, the taste frequently dies out after this age if it has not been developed, and there appears to be a good deal of evidence to show that even where advice and help can be had for the asking, but where there are no regular times for gardening, nor any definite instruction, the girls' capabilities develop very little from year to year. In many cases experience goes to prove that the children are disinclined to experiment in any way: even when fond of gardening, they have preconceived notions of what they can, and cannot, grow. Very few will take the trouble to learn grafting, budding, or any unknown process; and where gardening is frankly regarded as a recreation, the children are interested only when the gardens are pretty, and are not willing to work systematically at seasons when it is dull.

These results suggest that much more might be done during schooldays, and though it is impossible, if in any way desirable, to aim at giving a thorough knowledge of horticulture, enough instruction to ensure unmistakable development towards skilled gardening seems desirable. A study of reports on school gardens in Germany and Canada show how much is accomplished elsewhere.

Detailed suggestions as to what should be done are

unlikely to be of much utility, since local conditions must determine everything in gardening. It is perhaps safe to urge the necessity of some definite teaching, or at least of fixed times at which criticisms of the plot as it stands must be given to every gardener together with advice and help.

When gardening is encouraged, but cannot form part of the regular curriculum, it might be possible to arrange for every girl entering the school under fourteen to have an opportunity of gardening under guidance for at least a year at an age when it is easier to develop a natural instinct for the work. If space is limited, then keen gardeners can be weeded out after this preliminary trial. A plan which seems to work admirably has been adopted at the Haberdashers' Askes' Hatcham Girls' School, where the amount of available ground is small. Each Form has a garden, the work being arranged by a Form Committee so that there is not much scope for eager gardeners; but in addition to this, there is a Gardening Club to which members (17 per cent of whole school) are elected in virtue of their proved ability. The club has a special garden, and is now forming and undertaking the charge of experimental plots and special types of garden. Where gardening is regarded chiefly as a pleasant recreation a compromise of this sort might be made for the benefit of the few ardent spirits.

Help of the kind needed can probably only be given by a mistress who is herself keenly interested and who has had some insight into systematic gardening, even if it be but a course such as that organized at the Swanley Horticultural College for a fortnight during the summer holidays.

It may be suggested that every owner of a garden should be encouraged to draw up a definite scheme of

planting, and it is while these plans are under discussion that an effort should be made to induce children to try experiments; to attempt flowers never yet grown; to foster any originality they may have; and to see that they do not produce the same arrangement year after year. Garden diaries may well be kept since the briefest of entries each week, with notes on successes and failures, are useful for future reference—even the most dilatory child is spurred on when she sees from her diary that last year certain annuals were sown so late that they had not bloomed at the end of the summer term.

Incentives of various kinds seem needed to encourage school gardening. It is generally found useful to criticize and mark the plots each week or month, the marks being counted towards the annual prize, if such there be; the three best gardens may be posted on the school notice board; attention may also be drawn to any remarkable plant or successful operation, such as grafting, to be seen in any particular garden. Probably an annual garden prize will be found a useful stimulus, and it may be announced at the beginning of the year that many or all of the following points will be considered in making the award :—

1. General appearance of garden.
2. Variety of plants grown.
3. Successful growth of plants difficult to rear.
4. Plants grown from seed produced in the garden during previous year.
5. Plants from cuttings.
6. Plants showing careful layering.
7. Grafting.
8. Budding.
9. Appearance of specified plant to be grown in each garden.
10. Careful staking, etc., etc.

A flower show encourages the skilful cultivation of in-

dividual plants. (See admirable detailed suggestions as to management of shows in primer of school gardening, by Miss Agar, recently published.)

In some London schools (notably at the James Allen's School, Dulwich Grove, the Godolphin and Latymer, Hammersmith, and the County Secondary School, Putney) may be seen experimental plots for the study of spontaneous occurrence of weeds; types of climbing plants; relative fertility of seeds; pollination; growth of similar plants in seven kinds of soils, etc., etc. There are also natural order beds in two of the above schools; and all have some plots in which to study the flora of seashore, heath, marsh, woodland, hedgerow, meadow, and chalk districts.

Though it is no doubt true that the value of gardens as a factor in school life has scarcely been fully recognized, yet interesting experiments are being worked out, and it is encouraging to find that even where the gardening is on a small scale, a certain number of girls leave school with a genuine interest in an open-air recreation other than games.

SUGGESTED SCHEME FOR SCHOOL GARDENING.

Autumn Term.

Study of fruits and their distribution.

Collection and storing of seeds.

Removal of annuals, burning of rubbish, division of perennials, cutting down of stems, digging, and manuring.

Cuttings of certain plants.

Sowing seeds for early summer flowering.

Planting roses.

Structure of corms and bulbs and planting.

Preparation of different types of soil (in boxes) for future experiments with seedlings in spring and summer.

In bad weather *plans to scale of garden* as it should appear

(say) in July, taking into consideration soil, aspect, colour scheme, etc.

Lists of plants expected to be in bloom each month—this instils idea of rotation and monthly gardening operations.

Study of good illustrated florists' catalogues to induce cultivation of some uncommon plants and those not previously tried.

Preparation of seed lists for early ordering.

Study of *garden pests*, e.g. leather-jacket, chafer grub, wire-worms, slugs, and snails. Fungi.

Spring Term.

Study structure of seeds and food supply.

Germination experiments :—

Grow seeds in soil, sawdust, water, culture solution, on moist flannel.

Systematic experiments to test effect of light and gravity on seedling.

Accurate measurements of daily growth of various parts of seedling.

Effect of keeping seedling in closed bottle full of dry air; in bottle containing water from which all air expelled by boiling; in bottle kept moist and open to air.

Some study of parts of plant.

Experiments of breathing, feeding, and transpiration of green plants.

Simple experiments to show root pressure, and absorption of food by root hairs.

Study of opening winter buds.

Sowing seeds in boxes and in garden plots.

Use of frames or greenhouse for seedlings.

Pruning of rose-trees.

Demonstration lessons on grafting.

Garden Pests.—Caterpillars of certain moths and butterflies, greenfly, woodlice, sawfly, leaf-cutter bee, moles.

Garden Friends.—Earth-worms, ichneumon flies, ladybirds, lacewing flies, some ground beetles, green-tiger beetles.

Summer Term.

Storage of bulbs and corms.

Pricking out of seedlings. Transplanting.

Staking of annuals and perennials.
Bedding-out.
Cuttings from stem, leaf, and root.
Layering of carnations.
Experimental study of pollination and use of manures.
Experiments on fertility of soils. Work of bacteria and fungi in the soil.
Demonstration lessons on budding and ringing.
Study of insects which help in fertilization.

If garden does not afford opportunity for such study, walks may be organized to show effect of environment; influence of light, moisture, and substratum on distribution; water, marsh, bog, moorland, humus, chalk, sand, and salt-marsh plants; characters of wood, plantation, meadow, and hedgerow plants.

N.B.—All experimental work suggested in scheme cannot be taken in one year, nor with small children.

M. SUNDERLAND-TAYLOR.

CHAPTER XVIII.

PHYSICAL TRAINING.

To this matter the girls' high schools have from the beginning given careful attention, though in the early days it was not possible to do very much. Calisthenics, as the lesson was then called, was part of the dancing which had always formed an element in girls' education; the transition from this to formal and careful gymnastics, often under the supervision and control of a medical woman, has been natural and easy, so that carefully organized physical training in the gymnasium is an important part of typical high school work. The Swedish system, as it is called, is generally followed. The majority of the schools sending returns for this report state definitely that they follow the Swedish system. A small minority (including the Frances Mary Buss Schools) adopt the German or Eclectic system. The amount of time devoted to the subject varies; the younger children in some schools have a lesson every day, in the middle school three or four lessons a week, and the older girls in some cases one or two. Sometimes a short lesson is given four days a week, and a long one on the fifth. When the weather and the conditions of the building and playground admit, the lessons may often be given out of doors. Besides this regular work, there is also remedial or medical gymnastics, given in small special classes to those girls who may require particular exercises for the

correction of defects, such as slight curvature of the spine. An extra fee is often charged for this. Where the physical condition is really serious, private lessons have to be given by a specially trained medical gymnast under the supervision of a doctor. In some cases this work is done not in the school, but in a physical training college in the town. The course of exercises, whatever be the system, is graduated carefully according to the strength and age of the pupil. A special dress is often required, and is always encouraged. Occasional displays are given in some schools. Breathing exercises, marching, and a proper carriage of the body are of course matters that receive attention from every gymnasium teacher. The Eclectic system, which uses music, has always had dances, ball-games, and the like in its course of study; Swedish teachers are now introducing national dances with music to cultivate the sense of rhythm. Thus every girl receives in a high school a certain amount of training in deportment, as our grandmothers would have said; but besides this, many schools have formal dancing classes during the winter, for which an extra fee is generally charged. Some schools, from the returns in the schedules, seem to have large numbers in these classes, and to classify carefully.

In the summer term opportunities are given for swimming. Seventeen out of twenty-three schools state that they make a provision for this form of exercise. The usual plan is to attend the public swimming bath on the clean water days, once, twice, or three times a week. The school generally provides the supervision of a mistress, but not always; much depends on the type of public bath available, some places being much more fortunate than others. Some schools provide swimming lessons. One school in the Thames Valley says: "Swim-

ming during the second half of the summer term. Each Form has two lessons a week. More attention is given to making every girl learn to swim than to making individual girls learn fancy swimming. The Forms compete for a swimming belt, which is held by the swimming Form for the year."

In other schools girls and their parents make arrangements with the attendants at the baths for instruction. St. Paul's School has a private swimming bath. It may be worth while to note that this form of exercise was encouraged in London forty years ago, in the Frances Mary Buss Schools, very much as now, by making an arrangement at a suitable local public bath on Saturday mornings. Like calisthenics, it is part of the traditional curriculum.

Games, on the other hand, now so popular, and, on the whole, so successful in the girls' schools, were not in the original tradition, but were introduced by what one may call the second generation of mistresses, the college women who, about 1885, were making their influence felt in the girls' schools. Those who are interested in the history of the movement should refer to an article by Miss Dove, one of the early Girton students, called "Cultivation of the Body," in "Work and Play in Girls' Schools";[1] St. Leonard's School, St. Andrews, N.B., being one of the first schools to lead in this matter. The article should be read; it is the formal statement by an expert of the case for games. Reference should also be made to: "Games and Athletics in Secondary Schools for Girls," by Penelope Lawrence, head mistress of Roedean School, Brighton. Education Department's "Special Reports on Educational Subjects," Vol. II. 1898.

[1] Longmans, London. 1898.

Organized games are now provided in all girls' schools that have any pretensions to efficiency, but there is considerable variety in the amount of time devoted to them and in the matter of compulsion. In boarding-schools where the girl's whole life is under the control of the mistresses, games are in general compulsory, with provision, of course, for the temporary or permanent withdrawal of any particular girl on grounds of health. Some day schools require a girl to play games once a week. In St. Paul's Girls' School "attendance in the playground is compulsory for all except those in the two top Forms. Hitherto it has been found possible to ensure that every girl plays some definite game between 2 and 3 p.m." In the Clapham High School girls are expected to play two or three times a week. In other schools there is no compulsion, but provision is made for those who wish to play. Every one knows that English school girls play hockey in the winter and tennis in the summer. Some even attempt cricket in the summer term. Some hold, with Miss Dove, that there should be a second winter game, and therefore play lacrosse. A few schools have fives courts where fives is played, and some schools play the formal game of rounders. The game, however, which seems to suit all classes of girls of all ages is basket-ball, or as it is now called, net-ball. This is a new game, invented in 1891 in America, where it is played by men indoors in the snowy weather, when outdoor games are impossible. It is also played by girls, though, of course, the rules and the character of the game differ in the two cases. It is a team game with a ball and two goals. It was introduced into England at Madame Osterberg's Physical Training College about 1895, the first goals being two waste-paper baskets hung on the wall at one end. The game is not difficult, but full of excitement and compara-

tively safe, much safer than hockey, while its physical effects are very much better. It is found possible to have a team in every Form in a school, and to arrange Form matches: the game is not, however, suitable for summer.

We may quote the arrangements for the Godolphin School: "Summer term, cricket and tennis; Spring and autumn terms lacrosse and net ball; hockey is being given up in favour of lacrosse". Mistresses are always found to take an interest in the games and share in them. Sometimes there is a special games' mistress, who does nothing else but that and gymnastics. Elsewhere an academic mistress organizes the games; often time given to playing and supervision of games is counted towards the amount of supervision done by a mistress, and allowed for in the time-table. This is justified by the value of games as part of the ethical, as well as the physical, training given in the school: a good tone is encouraged, healthy interest is developed, public spirit fostered, and fair play, good temper, and courage in defeat brought out through the opportunities for the exercise of these qualities found in games more fully perhaps than anywhere else during school life.

On the other hand girls' schools are now beginning to feel the disadvantages of games, as is the case with boys. Miss Gadesden of Blackheath High School, in her address to the Association in 1907, drew attention to the tendency that girls were coming to think games the only form of pleasure and pastime. Dr. Jane Walker at the Conference of National Women Workers in 1906 stated: "So that, on all hands, judging from my own limited experience alone, I feel compelled to give a warning note against making physical health and strength the principal aim of our national well-being. Far more important

really is our intellectual supremacy, and immeasurably more important is our moral and spiritual prowess."

There is a danger of making a fetish of exercise, and this is becoming increasingly marked amongst women. On the other hand, there are undoubtedly, even now, schools where more attention ought to be given to games than is at present the case.

Here, as in so many other matters, each school must have freedom to make its arrangements as the authorities find best, to fit the needs of their particular pupils.

SARA A. BURSTALL.

There is an interesting controversy as to the merits and defects of the two systems, Swedish and German (or English). In the "Journal of Scientific Physical Training," spring number, 1910, the question is treated at some length. It is felt that the Swedish system, which is based on scientific principles, and requires direct attention to repeated words of command, is training the body as mathematics the mind, "hence a gymnastic lesson requires quite as much attention, effort, and expenditure of nerve energy as a lesson in mathematics". "It endeavours systematically to influence the body by the most minutely graduated movements, each of which has a definite calculated effect." On the other hand, by the minority of head mistresses who prefer the German or English system with the use of music, three objections are made; (1) "They consider that the strain on the attention due to the repeated commands of the Swedish system is not an advantage, as some of its friends state, but a very serious disadvantage in the case of girls who are doing hard mental work. They much prefer exercises done to music, since these throw much less strain on the high nerve centres; the reactions are automatic, and consequently the musical drill is much more restful, is a change from ordinary school work." (2) "They believe that the Swedish system is not sufficiently feminine. Their aim for girls is not the development of muscle, they rather seek to give girls an education suited for their needs as women. In the German system are often included dances cultivating grace, and the use of music tends in the same direction." (3) "The principle of rhythm seems to be somewhat ignored in the

Swedish system. Musical drill is not only restful to the higher nerve centres, but develops the sense of rhythm which appeals to that natural instinct in young people which has given rise to the dance as a feature of barbarian and primitive life." This is, of course, not the place for any attempt to judge between the two systems. It should be noted that for girls not much apparatus work is considered desirable, and what is given is modified from the ordinary German exercises for men; while, as the advocates of the Swedish system point out, "The German apparatus was invented first and the human body produces exercises to suit it. Swedish apparatus was invented to make particular types of exercises, to develop the muscles in a particular fashion."

CHAPTER XIX.

HYGIENE AND COMFORT OF SCHOOLS.

IT is of the utmost importance that the comfort of the staff should receive full consideration, and this is done in planning most new school buildings, but some of the older buildings leave very much to be desired. There should be a dressing-room quite apart from that of the girls, with hot and cold water, etc., and a sitting-room large enough to accommodate the whole staff at once. Here there should be at least one sofa on which a mistress who is feeling tired or not well may rest, and some easy chairs. Girls should never be allowed to enter this room, and a cupboard in a convenient place outside should be arranged for exercise books which are about to be or have just been corrected. If tea is provided at a small charge, or, wherever possible, gratis, it will probably save mistresses the trouble of carrying home exercise books for correction.

The dressing-rooms of the girls should not be a draughty passage, and, where funds admit, lockers should be provided, so that each girl may have her own. These are sometimes made with wire partitions between and holes in the top and bottom, so that a current of air may pass through. When it is possible to have warm pipes underneath, the current of air is constant and will dry clothes that are damp. For really wet clothing there should be a drying-room, thoroughly well ventilated.

Hot water should always be provided in the girls' lavatories, because it is very difficult to wash grubby hands thoroughly clean with cold water, and nail-brushes which do not cost more than a penny each are very useful. It is almost impossible to provide a towel for each girl, and this is not necessary. Long round towels, hung as high as possible, are quite satisfactory. One school provides paper towels. The closets should be so situated that they can be thoroughly ventilated without being too near any of the other rooms, and architects should be required to provide cisterns capable of holding enough water to form a constant supply. This is a defect found in many of the older school buildings.

Some means by which girls can change their under garments after school matches should be provided where matches are played at the school. Girls very often sit down to work in the same clothes in which they have played a hard game, and this cannot fail to induce chill and to do them harm in other ways. There should be a couch in some quiet part of the school, where a girl who is unwell may lie down, and this should not be in the mistresses' room.

An early luncheon of milk and biscuits should be offered to all at a small charge, and girls who come a long distance to school should be encouraged to take something of the kind. Dinner at school wherever possible should be the rule for those who have not time to go home. Many schools have a rule against allowing girls to go out to shops for the midday meal, but allow provisions to be brought from home: this is seldom regarded as satisfactory. At King Edward VI's School, at Birmingham, Miss Creak has for some time provided school dinner which is *à la carte*. The menu gives the price of each dish, and the girls may order accordingly. Each

girl buys a ticket from the porter, for which she pays 3d. At dinner-time she makes out her bill, deducts the 3d. and pays the balance to the mistress in charge.

Vegetarian food seems to suit many children, especially in summer-time, and it is not difficult to provide a considerable variety of vegetable dishes at small cost. The weak point in many school dinners is the deficiency in vegetables, or the unappetizing way in which they are cooked. Now that much attention is given to the preparation of girls for home life, it is recognized that they should not be required to eat food which they dislike, and we are not afraid to encourage the future caterers for future families to be as the French proverb says they should be, "un peu gourmet".

The cleaning of the school building is generally done by women who come in the morning and evening for the purpose. Where the Head Mistress resides in the building, she directs the school servants, but that is happily not a common plan, as it seems to lay an undue burden upon Head Mistresses. Polished floors are a very great help towards cleanliness, and towards the prevention of the spread of infectious diseases, but polished floors have their dangers to limbs. For unpolished floors there are now excellent preparations, such as Dustolio, which prevent dust from rising during the process of sweeping. Most Head Mistresses rely largely on fresh air and light for the prevention of the spread of epidemics; and for prevention of their entrance into the schools, on the health certificates which at the beginning of each term are signed by the parents; but at one school the experiment is being tried of disinfecting form rooms during the middle of the morning with one of Jeyes' carbolic fluids. Beside the danger of infection there is considerable danger of pulmonary trouble from the dust of the chalk which is

very much used in our schools. It should be an absolute rule that the blackboard dusters are kept moist.

It would be a mistake to suppose that in studying the interests of health and comfort, school authorities are tending to overlook the present need for simplicity of life. Luxury is not the handmaid of health: girls are being trained at the same time to refinement and to enduring hardness.

F. R. GRAY.

CHAPTER XX.

MEDICAL INSPECTION.

IN consideration of the great importance of this subject at the present moment, it has been thought advisable to have a separate note on this work as carried on in girls' schools to-day. Indeed no account of their life would be adequate without some statement of what has been done, from almost the beginning of the movement, to bring in the help of the medical authority for the guidance of the mistress. In some of the pioneer schools medical inspection, by a school doctor, began almost as soon as there were women doctors qualified to carry out such inspection. In the second volume of "Special Reports on Educational Subjects," published by the Education Department, there is a complete account by Mrs. Woodhouse, written thirteen years ago, of what had been done at the Sheffield High School for girls, and this might very well stand, *mutatis mutandis*, for a report on the subject to-day. What has happened, since 1897, is that the medical care and assistance, then found only in a few schools, are now much more general.

For the purposes of this note, forms of inquiry were sent to nearly fifty schools mentioned in the "Girls' Public School Year Book" as having medical officers: thirty-seven returns were kindly made to these inquiries. In going through the forms, one is made to feel vividly how very much care is taken of the health of girls by

those responsible in the schools. Different methods are employed; the boarding school in particular must have its own plans, but all are actuated by the same purpose. We can only wish that those people who speak and write against the girls' public schools as indifferent to health questions, could but go through these returns. Of the thirty-seven, five state that they have no medical inspection; in one case the Head Mistress states that the council after consideration refused to have it. Four boarding schools employ systems of their own, which seem to depend upon records made by the family medical attendant, and on careful supervision by matrons, the lady principal herself, and the gymnasium mistress. It may be said that many boarding schools have periodic, even daily visits from a school medical attendant, man or woman, and one boarding school has a resident woman medical officer.

The returns from twenty-eight schools give an account of systems of regular medical inspection. In two cases the system is at present incomplete, and in four the charging of a special fee seems to be a hindrance, so that the medical inspection is not general; but omitting these cases, there remain twenty-two schools, including nearly all the large schools of Southern England, where there is a thorough and elaborate system in working order. On the whole, the general plans are the same in all these, and one may attempt an account which is a kind of composite of all the twenty-two. First, as regards the official, we find not infrequently there are two medical officers, one who acts as a referee in cases of infection, etc., and one who does the actual inspection. The latter is generally, but not always, a woman. Several head mistresses emphasize the importance of not having a local practitioner, but some one who comes from another city

or another part of London; this avoids any question of possible interference with the family medical attendant's practice. It is found, however, that even when an official lives in the locality, tact and care will avoid any possibility of collision. In the majority of cases the doctor is paid by the school. There are two methods of payment: one by extra fees, 3s. 6d., 5s., 10s. 6d., etc., which the parent pays. With the other way a fixed salary is paid by the school to the doctor. There is little doubt that the latter plan, when financial considerations allow, is the more satisfactory; but the question of expense is, in some schools, especially those that do not receive the full Board of Education grant, a very serious matter. The consent of the parents is in general asked for the inspection: one return states "not one in a hundred refuses," and the mother, in a day school, is always given the opportunity of attending if she wishes. In some schools the Head Mistress and the gymnasium mistress are present; often the gymnasium mistress helps in making the record. In others such an arrangement would be unworkable. A report is kept of each girl, often by a card catalogue; sometimes this is filled in by the doctor. A few schools employ a special clerk. The forms of this record are extremely interesting, and vary very little from school to school. They are, however, full, and sometimes take account of home conditions, mental calibre, and progress. One school states that the woman doctor in two and a half hours can see ten to eleven girls, another that two hours are required for seven girls. It is understood, of course, that in no case does the medical inspector prescribe; if the mother does not attend the inspection, the report is sent home through the Head Mistress, especially mentioning matters such as eyesight, teeth, and the like, which need attention. Several Head Mistresses

emphasize the value of the system in bringing about co-operation of home and school, and encouraging healthy methods of living. In at least one school the medical woman gives lectures to the mothers on the care of the health of girls, admission being by invitation cards sent by the Head Mistress. In some schools the hygiene lessons to older girls are given by the medical woman inspector.

There is always some connexion, direct or indirect, between the gymnasium work and the medical inspection; the gymnasium mistress and the doctor work together according to the various methods of the particular schools, and in most schools remedial exercises are ordered for those whom the medical inspection proves to require such help. Some schools charge an extra fee for this, some charge none. One Head Mistress says, "The special drill and massage given to those who have crooked backs, round shoulders, flabby muscles, etc., braces them up, and has a markedly good effect on their general work". Cases of spinal curvature which might become very serious, are often discovered through medical inspection, and being treated in time, are put right. A certain small number of girls are found to have heart weakness, which would make ordinary games and gymnastics dangerous for them. Some Head Mistresses say they could not accept the responsibility of allowing girls to use the gymnasium and playing-field, unless they had medical inspection.

It is a general custom to examine the girls on entry. Some schools make the medical inspection compulsory for the holders of certain scholarships. No less than three of the returns state that on the average every girl is examined once a year, and these schools contain hundreds of girls. Another return mentions three inspections

during school life as their rule. The medical woman will sometimes find it necessary to inspect a child term after term, and it is not unfrequent for heads and assistant mistresses to send special girls for inspection, because of some difficulty that has arisen in work or discipline. The present writer would wish to have the medical inspector's opinion about the girl in every serious case of discipline that comes before her. It is, indeed, often found that idleness and bad work are connected with some physical condition.

At least one school has found interesting and valuable results through the study by the medical woman of forms as a whole. In two forms the intellectual work was found one session to be below the proper standard: a study of the cards for the individual girls showed that the average weight was below what it had been in these forms the previous session when the work was good. Inspection of the forms in the gymnasium showed lack of power of co-ordination and quick response. Consultation took place with the head, the number of subjects taught and the amount of homework was cut down, more drill lessons were given, letters were sent home asking mothers to send the girls to bed early and see they ate well of simple nourishing food. In a term the work, and the average and the maximum percentage of marks, as well as the pupils' vigour, rose in a most satisfactory way.

In conclusion it may be useful to quote *verbatim* the opinion expressed by some Head Mistresses in answer to the question, "Does the Head Mistress find the inspection helpful to the general work of the school?" "It would be impossible to carry on the school work without it." "Exceedingly helpful in detecting any abnormality of development." "Absolutely essential, as mental and physical developments go hand in hand." "Our two

years of medical inspection have resulted in the treatment of a large number of cases of special defects or weaknesses not before known by the parents. Special children have had operations for adenoids and enlarged tonsils—several have been sent to oculists and found to be needing spectacles." "A record of infectious disease is invaluable in case of an epidemic beginning. Those likely to be immune, can be at once singled out and those eligible for the complaint, noted and watched." It is only fair to say that two influential members of our Association replied to the question "no"; "not specially so"; but the majority would agree with the view of an ex-president: "I consider this inspection essential, as it makes me aware of the physical as well as intellectual capacity of each pupil, and her time-table can be regulated accordingly. In the case of a delicate girl work can be somewhat minimized until her health is normal. Where advised by an inspectress, special private remedial exercises are given, and these have been very useful in numberless cases where otherwise temporary muscular weakness might lead to permanent delicacy."

SARA A. BURSTALL.

CHAPTER XXI.

RESIDENT SCHOOLS AND BOARDING-HOUSES.

BEFORE beginning this report, I addressed a circular to eighteen schools, inviting information. From nine schools I have received very full, very interesting, and very helpful replies on which the following report is mainly based; and I desire hereby to thank those ladies who have given so much assistance in the preparation of this section.

I am acutely conscious of my inadequate treatment of a subject which, as one of my kind correspondents remarks, is indeed vast.

I have deliberately avoided, as far as possible, all subjects (e.g. physical training) which are dealt with elsewhere; and have endeavoured to present information as to what is actually done, as well as to suggest the problems which constantly call for solution in resident schools.

In what has been called the Renaissance of Girls Education in England, the larger part has been played by day schools; or by schools (such as Cheltenham Ladies' College, or the North London Collegiate School) in which the residential element was a distinct and separable development.

It is hardly too much to say that, apart from orphanages, and certain schools of restricted scope, *public* boarding-schools for girls did not exist in England before 1870. *Private* boarding-schools, of every degree of merit

and demerit, were plentiful, and offered almost the only alternative, before 1850, to home education. In most cases the training provided by these private schools was, intellectually, an extension of the teaching by governesses and masters at home: morally and physically an extension of family discipline, with the inevitable modifications due to number and diversity of pupils and staff. No greater contrast can be found than that between the schools and methods approved by upper and middle class parents during the larger half of the nineteenth century for their boys, and for their girls.

The great schools for boys were redeemed by the public spirit, no breath of which was allowed to reach their sisters.

The growth and reorganization of public boarding-schools for girls; the infusion into *all* boarding-schools of some measure of the public spirit associated with the older schools for boys; the combination of the newer methods in teaching and organization usually associated with "high schools" with a residential system; and last but not least the modern cultivation of girls' physique through organized games, gymnastics, etc.—all these developments have been marked features of the last twenty or thirty years. This section bears witness to the extent and the success of the movement.

Before setting forth in outline the information gathered from many important schools, it seems desirable to say a few words in general as to the aim of a boarding-school as distinct from a day school.

I presume that most people would agree that the ideal training for girls and boys alike is that of the ideal home, supplemented, if need be, by attendance at a good day school.

A boarding-school must therefore aim (1) at giving to

its scholars as far as may be the indispensable elements of the home. (2) At supplying, further, those elements which none but an ideal home can give, and in which many homes are conspicuously deficient.

1. Thus the first aim will be to give that gentle nurture, that physical, moral, and religious training which earnest and careful parents seek to give their children. And in this connexion boarding-schools play an important part in setting a standard, especially in definite matters of health (diet, sleep, exercise, etc.) which will react on the community.

2. Boarding-schools have exceptional opportunities of widening the outlook and enlarging the sympathies. Boys and girls living in communities far larger than the family, gain the power of subordinating the individual to the general interest, the habit of thinking and working for the community and not merely for the self, or even for the family. I will not labour these points but will only add, that the importance of keeping our larger aims steadily before us can hardly be exaggerated, especially in the life of a boarding-school, where crowding detail constantly chokes leisure and thought; and where subordinates and pupils are prone to crystallize expedients into fixed rules, and are heedless of, if not averse to, the constant reference to first principles on which all rules should be based.

General Supervision.—In the majority of schools, this is entrusted to the teaching staff, under the direction and usually with the active co-operation of the Head Mistress; on the other hand, in a few cases, the care of the girls out of school is of set purpose given to non-teachers, again responsible to the Head Mistress.

Where the "house" system prevails the mistress chiefly responsible (the "house mistress") usually teaches

for half time only, or even less. But in other instances, a full share of teaching is combined with the domestic care and supervision of girls, charge of dormitories, etc.

It should be realized that, even when the Head Mistress does much, this system adds very considerably to the strain of work for assistant mistresses, and various expedients are employed to ease the burden.

1. In some cases actual teaching is confined to morning hours, and the supervision in the afternoon and evening is arranged in rotation among the staff. In one school, the staff is divided into two portions, which undertake the whole supervision in alternate weeks.

2. Where the teaching staff is nominally responsible, the actual care of girls (health, cleanliness, etc.) is frequently entrusted to maids or matrons.

3. Further, in boarding-schools as a whole, hours of work are shorter, more conveniently arranged, and classes are smaller, than in day schools.

But it is desirable to consider whether, if a mistress is doing as much teaching as might fairly be expected from her in a day school, the additional duties of supervision, etc., can be efficiently performed without over-strain; and in what way the time-table can be arranged so as to equalize the burden. In this connexion it is important to remember (*a*) that of a dozen teachers, some will be pre-eminently fit, and others as markedly unfit for work of this kind, therefore, in any system of rotation there must be some inequality of performance. (This difficulty is sometimes lessened by confining the chief duties to a few selected members of the staff, who are responsible in turn for all arrangements.) (*b*) Where the non-teaching hours of the mistress are partly given up to supervision her free time should be really free, and really private. One Head Mistress, after stating that each mistress has

"a comfortable well-warmed, well-lighted bed-sitting-room," (in addition to common rooms) adds that she has found this contribute more than anything else to the peace and happiness of the staff.

In some cases, where mistresses sleep in close proximity to, or actually in, the girls' dormitories, the responsibility and physical strain are great, and are acutely felt. On the other hand, it must be remembered that resident mistresses have no housekeeping cares, and that life in lodgings and boarding-houses has considerable disadvantages.

The burden of responsibility is lightened in most cases, especially where the school buildings form a single block, by the Head Mistress, who exercises general supervision and to whom all difficulties can be referred. But where the "house" system prevails, still more where the Head Mistress of the school is also head of one house, her colleagues must often be compelled to use their own initiative, and it is difficult for the Head Mistress to establish and to maintain direct personal relations with each girl, even though regular and systematic effort is made to this end.

Physical Supervision.—In most cases this is entrusted to a matron, who is frequently a trained nurse, and sometimes has maids working under her, sometimes the gymnastic teacher is also the "health mistress," and in one school she is required to visit each dormitory nightly.

It is of the utmost importance that growing girls should be under the care of an older woman who can command their confidence in matters of health. Physical and moral health are so closely and vitally connected that this confidence cannot safely be reposed in an ignorant or unrefined person.

It is this consideration which has led to the practice (in some important schools a definite rule) of making the "house mistress" a member of the teaching staff. But if her duties in the latter capacity are heavy, the direct care of the girls must be delegated or divided, with obvious risks to efficient control. Moreover, the qualifications required in a teacher do not wholly coincide with those of a "house mother," who should be chosen mainly for her personal character. On this point one Head Mistress writes: "I feel much more strongly than I could state, the immense importance of the house mistress, matron, etc., being the right persons, chosen mainly for their love of children, experience in dealing with them, deep religious convictions and earnestness in their work". All who know girls can testify to their extreme shyness and reserve in matters of health. The duty of reporting anything amiss is impressed upon them by some heads in a preliminary interview on entering the school. Another admirable expedient is the "house meeting" at the beginning of each term in which this and similar duties are clearly put before the house as a whole. (See below.)

But no exhortation will suffice if there is not a kindly and accessible person to whom their confidence should obviously be given. The expression, "in loco parentis," defines the situation. Girls often talk to each other of health matters, or even to servants, for want of better and equally accessible confidantes.

Two important physical matters require especial care.

(1) Daily relief is frequently neglected by girls; in many cases to the life-long detriment of health (one experienced physician has stated that the greater part of women's ill-health is caused by constipation); much patience and care is needed to convince a child of the

importance of regularity, and to establish good habits in this respect.

(2) In some cases strict rules are made forbidding *all* exercise at certain recurrent times. Violent exercise (e.g. matches, gymnastics, long walks), should in all cases be forbidden throughout the period, but it is desirable to interrupt daily routine, and to attract the attention of younger girls, as little as possible. Individual treatment is more important here than in any other matter, absolute rest being imperative for some girls, especially for the first few months. Where matches, etc., are played it is desirable to have one or more "understudies" for each player that the game may not be conspicuously disorganized if one or more girls withdraw. The necessary discretion and discrimination in these matters can only be beneficially exercised by one intimately acquainted with each girl.

The care of the hair is recognized as a matter for great vigilance. In some cases hairdressers attend periodically; in others a matron, assisted by maids, brushes and inspects the hair of at least the younger girls at stated times, varying from every day to three times a term. In some cases elder girls brush hair for each other, but this is a duty which can hardly be left wholly to them. In one school, the hair must be kept neatly plaited all day, until the evening hours, and it is manifestly desirable to keep it out of the way during games, gymnastics, etc.

Accommodation—Dormitories.—In many schools there are no dormitories, but only single bedrooms or larger rooms divided by screens or curtains for two to five girls. In others, dormitories for nine to eighteen girls are the rule; the beds, etc., being separated by curtains or partitions. The cubic space per head varies from 600 to 1300 cubic feet. (Dr. C. Dukes prescribes 800 cubic feet.

The position and bulk of furniture is an important element in the calculation.)

One Head Mistress says: "Personally I think large dormitories much preferable, partly because of the greater facility for ventilation". For the same reason this Head Mistress prefers curtains to fixed partitions for cubicles (as do others also). On the other hand, one Head Mistress thinks single, double, or four-cubicled rooms best for girls over fourteen. The arrangement of girls according to age is very variously dealt with. In one school little girls under twelve are placed (four or five) in a large uncurtained room, with one curtained cubicle for a monitress in charge. In another the dormitories are arranged as far as possible to coincide with classes, the form mistress being in charge of her own girls in the dormitory. In another there is very little separation according to age, but "the inmates of the dormitories are thought over one by one and each girl arranged exactly as seems best for herself and her companions". This is certainly the ideal plan, but it is only possible where close and intimate knowledge of each girl is possessed by the authorities. Obviously age is not the *only* ground for classification.

Ventilation is mainly secured by an ample provision of windows; the opening (and shutting) of these is usually controlled by the mistress in charge. The unregenerate girl has sometimes an aversion to fresh air! Where small or single rooms are the rule, ventilators, and fan-lights over doors, are used to supplement windows.

Heating is frequently carried out throughout the whole building by a central furnace, and pipes for hot water or steam; sometimes the heating system is not introduced into the dormitories or bedrooms, but confined to the passages and the landings.

Open fire-places for occasional use are general, and where central heating is adopted the want of them is often felt (e.g. for cold days in summer, when the furnace is not in work).

The rule that no girl is to enter another girl's cubicle is generally very strictly enforced; in some cases it is the only dormitory rule. Regulations as to silence vary considerably. In many instances, absolute silence is required in all dormitories; in others, speaking is restricted, e.g. after all girls are in bed, conversation is freely allowed for a fixed period, which is very rarely exceeded. And some relaxation from strict silence seems a wise concession to human nature, a safeguard against stealthy whispering. The enforcing of rules and order in the dormitory is in most cases entrusted to elder girls, specially appointed for this purpose; but the house mistress or matron also supervises, where it is recognized as desirable that some authoritative person should be in and out of the dormitories, e.g. while girls are going to bed.

In some schools dormitories are freely used through the day; but more generally they are used for changing only.

Bathrooms.—The provision of bathrooms varies from one for twelve girls (regretted as inadequate) to one for six or seven girls; and arrangements for warm baths from once a week to every day. (Both these are rare, twice or three times a week is usual.) In two large schools a cold bath is provided in each girl's cubicle; usually cold baths are available when desired.

Cloakrooms or changing rooms easy of access from garden or playground are found generally, and contain washing apparatus, etc., for use during the day. The drying of wet clothes is usually provided for by a special

drying-room connected with the heating system. In two schools the laundry is available for this purpose.

Very careful arrangements are made for the cleaning and changing of boots; and much ingenuity is exercised over numbered pigeon-holes and other devices. Movable racks or shelves are very desirable, as dirt is inseparable from boots. The cleaner is in some instances instructed to report when boots need repair, a fact of which the wearer is often unconscious.

The provision of water-closets in sufficient number and easy of access is a very important point. The minimum number required depends very much on the plan of the building, and on the time-table, e.g. if the interval between breakfast and morning school is long (say 40 min.) a smaller number will suffice than when it is short (25 min.). The actual number varies from one for four girls to one for ten girls. In this connexion the importance of having all sanitary arrangements inspected, and all drains, etc., periodically flushed, must not be overlooked. This is regularly done in most schools, and relieves much anxiety.

Changing after games, more or less completely, is the rule in several schools. In others changing is insisted upon only after matches or very violent exercise, and in one instance at least, warm baths are available for such occasions.

Common Rooms and Studies, etc.—In most schools these are separate from the class-rooms. In one instance there is a threefold provision: the gymnasium for games; another room where silence is enforced for reading, letter-writing, etc.; and a third for needlework and other quiet pursuits, conversation being allowed. In a few schools the elder girls have separate studies and prepare their work alone, elsewhere preparation is done in class-rooms, which

allows of different hours and times for elder and younger girls, but adds to the supervision required.

Music-rooms are frequently in detached blocks; and many devices are resorted to for diminishing sound; but open windows defeat all such expedients. No school seems to have invented a plan for fitting in music lessons and practice without curtailing other occupations. They are not, generally speaking, allowed to clash with actual lessons, but are dovetailed into preparation and recreation by dint of much ingenuity and laborious manipulation of time-tables.

Dress, etc.—Girls are usually required, and sometimes taught, to mend their own clothes under the supervision of a mistress or matron, a special evening is often set apart for the operation which is alleviated by reading aloud; difficult repairs are sometimes taken to a sewing class; in one school *all* mending is done as a lesson under a teacher.

Generally speaking, the wearing of jewellery is vetoed, or restricted to watches, one brooch, and the like; and money is not left in the keeping of younger girls. A matron or form mistress usually takes charge of all money, though elder girls are not always required to hand it over. The system of requiring a weekly allowance to be made to each girl seems to be less common than in boys' schools. In one school, a comparatively small one, each girl has her own table in a sitting-room, with a locker close at hand for her personal belongings; in another all private property is kept in the bedroom, and money must be kept under lock and key.

Where girls are generally arranged in dormitories according to age, this division is carried out to some extent in the common rooms also. One Head Mistress writes that there is "very little mixing between the quite young

girls and the elder ones, although each Sixth Form girl . . . takes special charge of a little one". On the other hand, some heads attach special importance to the free intercourse, as in a large family, between girls of all ages.

Diet.—Three main meals a day, with a very light mid-morning lunch, and supper before bedtime are the rule. In one school special importance is attached to alterations according to weather, e.g. in bitterly cold weather each child has a small cup of hot soup (or milk) during the morning; in very hot weather the midday meal is modified. Several Head Mistresses lay stress on the importance of providing fruit as often as possible. Fresh vegetables, and such things as cress, lettuce, etc., are found very valuable.

The whole subject of diet is constantly under consideration in medical, scientific, and other journals, and much intelligence may be usefully expended on it. (*Note.*—Miss Dove's remarks on the subject in "Work and Play in Girls' Schools" are extremely helpful.)

There is a good deal of difference in regulations as to importing eatables into school. Some Head Mistresses entirely forbid *any* food to be brought to school; others allow a limited amount. It is difficult to see how, or why, a box of chocolates, or a birthday cake, should be prohibited; but restrictions, carefully watched and enforced, must be imposed on supplies from home, for the sake of digestion as well as of discipline.

A definite time is allowed generally for each meal. In one school an excellent rule ordains that twenty minutes, immediately after dinner, must be spent in quiet occupation, reading, etc.

Prevention, etc., of Sickness.—Generally speaking, each pupil, on entrance and at the beginning of each term, is required to bring a certificate of freedom from infection

and in one case the useful plan is adopted of printing quarantine regulations on the back of the certificate.

One school, greatly daring, uses no such certificates, but pupils are examined on entrance by the doctor and the gymnastic mistress. In some cases a doctor is attached to the school, and may be consulted daily; in others a doctor visits the school regularly on certain days, and oftener if required. In one or two schools a medical examination takes place on admission, and the parent (or medical attendant) is required to fill up a form of inquiry as to previous illness, weaknesses, etc. These forms are filed for reference and are very useful in epidemics or in cases of suspected illness.

The importance of detecting, and if possible checking, incipient maladies, is emphasized by all. Habitual spraying with some disinfectant (e.g. cyllin) has been found of use in elementary schools, and has been adopted in one resident school. But it is not general, nor is the precautionary measure of administering quinine pills daily at the beginning of the term. Most people rely on healthy environment, constant vigilance, and ready adaptation to exceptional circumstances (such as very hot or very cold weather) as the best preventives of sickness. The "Hitzeferien" (heat holidays) common in Germany are not usual in England, but in very hot weather a siesta in the middle of the day, and some modification of school routine, make unwonted conditions more tolerable. I would venture to add that cheerfulness should be steadily practised and preached in times of sickness or of bad weather; depression is infectious, and contributes largely to physical suffering.

Much responsibility in the detection and treatment of spinal curvature, flat-foot, etc., is entrusted to the gymnastic mistress, who is in most cases necessarily young. It is

important that she should be in close relation over this work with an older woman, more experienced in matters of general health; doubtful cases should be referred to the doctor. The most anxious are those of obscure heart trouble, often not suspected at the outset. Here the value of the medical examination on entrance, and of personal and individual knowledge of each child is most clearly shown. Some Head Mistresses have a "health interview" with each girl on entry. Still more valuable is the terminal "house meeting" (referred to above) in which elementary health rules are laid down, and girls are reminded of the duty of reporting any ailment or accident *at once*. Such matters as daily relief, cleanliness, etc., may be thus dealt with explicitly, and an opening made for the "word in season" to each individual girl as need arises.

Recreation and Exercise.—Daily open-air exercise is carefully organized. The time for playing games is usually limited (in one school fifty minutes is the maximum), and gardening or walks are allowed as alternatives.

Delicate girls can sometimes be allowed to rest or work in the open air. A rotation of games is very usual, e.g. lacrosse in autumn, hockey in winter, tennis and cricket in summer, basket-ball and rounders all the year round. Elder girls are often allowed to walk unsupervised in parties of three or four, and even to take younger girls. When mistresses take walks, girls are usually allowed to break rank as soon and as often as possible. (Motor-cars make this quite difficult!) A whistle to recall stragglers is found useful.

The supervision of games, especially in extensive grounds, is a severe tax on the staff, all the more that only a few can be fully qualified for the work. The "games mistress" needs to be of iron constitution if she is to fulfil all requirements. The girls themselves organize and

supervise games very largely, and as a rule very effectively. But they need help in many directions, notably in maintaining a chivalrous and "sportsmanlike" spirit. *One* malcontent may raise disputes and spread ill-feeling which call for the most careful and authoritative arbitration. One of the chief dangers is that games may become mainly spectacular and restricted to the best players, while less active or skilful girls are discouraged from taking part. Rotation and variety of games is intended to prevent this; on the other hand, compulsory games breed aversion not only among girls but among parents. (In this connexion the anti-hockey movement is interesting, since hockey has been fostered by some of the leading schools.)

Only intelligent and sympathetic vigilance can cope with the "loafer". Unless games are supervised and to some extent "coached" they very quickly lose their value in promoting bodily control, corporate discipline, and the other merits claimed for them.

The space available for games varies very much. It is certainly on the increase, though still very far from the high average acreage considered necessary for boys. Most schools have to utilize what space they have to the uttermost, but in planning a new school, or additions, a little calculation, with the help of a games expert, will show what should be aimed at. It should be remembered that grass needs periods of rest, especially in spring, if it is to stand hard wear. Great care is needed to avoid overfatigue and chills after playing. A shed or pavilion on the playing field for shelter, and for keeping coats, etc., to put on when not playing, is almost indispensable, and stands for coats are also useful and need not be unsightly.

Indoor Recreations.—Dancing is very general on winter evenings and is a great help when outdoor exercise is hindered or restricted by bad weather, but otherwise

indoor recreations are generally sedentary. They are governed generally by three important aims:—

1. To train girls to the right use of leisure.
2. To develop individual bent and taste.
3. To keep girls in touch with the outer world and abreast, in some measure, of current events. The first two aims are of course closely connected; one happy school owns to "many hobbies".

In several, dark-rooms are provided for photography; elder girls organize musical or dramatic evenings; the "art society" exhibits original work, or photographs, etc., of well-known pictures; and many girls busy themselves profitably with what may be called the "by-products" of various studies, e.g. botany drawings, pressed flowers, historical charts, weather diagrams, etc.

Reading aloud to girls when quietly occupied is a real benefit, particularly to slow or scanty readers. A brief résumé of the week's events forms the subject of a lesson in one school, in others the staff make it their business to retail important news, or draw attention to it. A school newspaper is a real desideratum. The "Weekly Edition" of "The Times" is the most suitable substitute known to me, but it lacks illustrations and explanations, and contains both more and less than is needed. The illustrated papers are growing more and more unsuitable.

The provision of a good library, rightly considered important, must be accompanied by leisure, opportunity to use it, and by the companionship of women who love books and can handle them with understanding.

Letter-writing in a community of young girls cannot be left entirely unregulated. The close supervision of *all* letters, formerly a common practice, would find few advocates nowadays. It is a desperate remedy which brings its own difficulties. I believe the right course is

that now adopted in many cases, of encouraging and promoting full and regular correspondence with *home*, absolutely free from restriction or supervision, and leaving, as far as possible, the regulation of other correspondence to the parents.

A definite time is usually set apart for the weekly letter, and there are many other ways of emphasizing its importance as a means of keeping in touch with home.

The whole question of entertainments and amusements needs to be considered with a view to the general aims of the school. How far (e.g.) is preparation for a play or a concert to encroach on study? and how far are games and matches to be made the chief interest and topic of conversation?

Moral and Religious Training.—The importance of this cannot be overrated. The school is the girl's home for three-quarters of the year at the most impressionable age, and will assuredly leave a mark on her character and opinions, on her religious principle and practice, for better or for worse. Clear and definite aims are vital here, with the chastening recollection that the effect produced is not always the one intended. (Voltaire, among others, was a pupil of the Jesuits.)

Schools may be sharply divided according as they offer religious teaching of one kind only, or allow diversity in teaching and to some extent in public worship also. These last are the less common; pupils usually attend some one place of worship, either church or chapel, and as Professor Sadler has recently pointed out, English schools tend to conform to the requirements of specific groups, social or religious. A "conscience clause" is rarely in force, but is not unknown.

Instruction in Scripture and in Christian doctrine forms

part of the curriculum in every case, and is usually entrusted to senior mistresses, the Head herself taking a large part. Nowhere in the school work is unity and clearness of aim more needed; and harmony between precept and practice is of vital consequence. On the one hand, there is the danger of making religious observance wearisome or enervating, on the other, the absence of such observance may cause spiritual atrophy.

Of far more importance than the actual instruction is the prevalent tone and attitude towards the teaching and towards religious matters generally. If this is right, the teaching will be twice as effective; if there is a want of sympathy and interest, the teaching, however intelligent, will not bear the fruit desired.

The preservation of unity in a very large school, especially under the "house" system, is not always easy; faction is ever ready to raise its head. School prayers make for unity, and regular school gatherings for addresses, games, entertainments, still more, for some common undertaking, are all helps. Some Heads, as already mentioned, adopt a definite system for seeing and speaking to every girl. Where the Head of the school is herself head of a house, there is a risk of her knowing a few girls very well to the exclusion of others, and unity is imperilled.

Self-government is generally aimed at. Girls are encouraged to organize games and to exercise increasing authority as they show fitness to do so with advancing years. It is of the utmost importance that the Head should be in close touch with prefects and monitresses, and that their relations with the rest of the staff should be clearly defined and clearly subordinate. It is generally recognized that rules should be few, and well kept; all rules should be anxiously revised from time to time, and reconsidered in reference to fundamental principles and to

actual effect in working. It is often a help to elder girls to discuss with them the inwardness of a rule.

With regard to self-help, in many cases girls make their own beds and mend their own clothes, but for nearly all other service they depend on servants. Want of time has much to do with this, prejudice perhaps more, but it is open to question whether the "simple life" should not be more practised in resident schools. Not the least important aim should be the setting of a standard in health, in learning, in manners, and consideration for others (including servants), and in the general conduct of life which should react on the homes from which girls come, and to which, when schooldays end, they should return wiser, better, nobler, to fill their places as daughters, sisters, and citizens.

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CHAPTER XXII.

EXAMINATIONS: THEIR USE AND ABUSE.

THE subject on which I am asked to write is that of University Certificate and Scholarship Examinations and their relation to modern systems of teaching, and to the general standard of learning in the majority of girls' secondary schools. It may be granted at once that University examinations have been one of the most important factors in the enormous improvement that has been seen in the methods and the results of school work during the last twenty or thirty years. They have helped to crystallize the teaching, to standardize it. They have helped to introduce definiteness of aim into the teachers' work and thoroughness into that done by the pupils. They have set up a standard of comparison which is not without its dangers, but has yet a fine balance of good to its account. At a time when, especially as regards women teachers, the standard of general efficiency was dangerously low, the great teaching Universities offered the stimulus of examinations and class lists and examiners' reports. At once the teachers' point of view was altered, the intellectual horizon was widened, the path of learning became one of greater certainty and joy to the many who started with enthusiasm and energy on their way. From the moment Cambridge and Oxford opened their tripos and honours examinations to women the position began to change. Women who went to college began to specialize;

they learnt something definite which they could pass on to others, and they gained, in addition, an appreciation and understanding of intellectual aims which they carried with them into the schools in which they were engaged to teach and which so gladly welcomed them. With the higher standard of the teacher in her conception of her work and its scope has come an extraordinary improvement in the highest, as well as in the average, work in the girls' schools. Of this the examiners have, I think, been too ready to take advantage. It must be known to every teacher who prepares candidates for University examinations that the papers of questions cover a wider range in preparation and are of infinitely greater difficulty than was the case even five or six years ago.

It appears to me, therefore, that these examinations have become as much tests of endurance and of physical fitness and health as of intellectual merit and efficiency; and, though there will always be the few who may be inspired to great effort and brilliant performance by the difficulty of the goal which lies before them, yet even *they* often run the risk of serious injury to brain and body which shows its lamentable results in later days. While for the many—though they may have good abilities, and may be able to stand the preparation and to take the examinations with sufficient ease and calmness, and though the teachers are allowed to bring to bear upon their work the right conception of the relation of school work to examination—yet even for them the present examination system makes great demands on temperament and health, as well as on brain power, which, in the interests of the community, it would be well to avoid. When, therefore, we reflect on the strain of preparation, on the too often useless loading of the memory with facts, on the reaction from the best kind of study which may

follow, on the immense fatigue of mind and body which frequently accompanies the actual examination—by the irony of fate they are generally held in the extremes of heat and cold—and the agony of disappointment which accompanies the so-called failure in examination, we are driven to ask: Is all this still necessary for the advancement of education and for the training and intellectual progress of the girls in our schools? The possible, even probable mischief to the girls and in a less degree to the boys who have to be brought up to a certain standard of information and the power of reproducing it when their brains and bodies are immature is a matter of serious importance.

Now what are the objects of examinations? I suppose the following are among them: (1) to test the pupil—to find out how much or how little she knows, with a view to suitable grading of her work and to promotion; (2) to test the teacher—to make sure, as far as one can, that she is doing her work on the right lines and in the right way; (3) to discover and test the best material—*the scholar* of the greatest gifts or merit; (4) to make sure that a certain average of information or scholarship or literary style or general efficiency has been reached for candidates desiring employment or qualifying for professions. The progress of the pupil and the best work of the teacher can surely be as well secured by a sympathetic and efficient system of inspection, in conjunction, for some subjects, with less severe and shorter examination papers than those to which we have grown accustomed. For the discovery of aptitude and merit the Board of Admiralty have found a way for the selection of their cadets. The example of the Board has been followed to a certain extent in connexion with London University Leaving Certificates and by some local authorities for the award

of scholarships. As a substitute for the present system of scholarship examinations I therefore commend for consideration such a scheme as follows: The recommendation of the teacher, given through the records which represent the results of the scholar's work over a considerable space of time; the examination by a board —from which teachers should not be excluded—of the records and the candidates' notebooks, followed, if necessary or desirable, by an interview with the candidates, and an oral examination in the work shown up in the notebooks; short written examination papers in some subjects to test ability and proficiency of a certain kind. These should be set by examiners of recognized University standing, all of whom should have had actual experience in teaching, and in teaching girls and boys.

It may be argued that this test of efficiency through records opens the door to favouritism; but, if the records are signed by the head of the school and by the several teachers of the scholar, the danger is minimized. A great responsibility is of course thrown on the teacher, and it would be absolutely necessary that no record should be accepted unless the teacher is of recognized academic standing. Such evidence as would be afforded by the record and elicited by the examiners and extracted by examinations, written and oral, would still not necessarily be conclusive in all cases. Neither is the present plan. We might still not always get the exact best, but we should approximate more to the ideal without over-training and over-straining and possible injury to the candidate. I believe that boys and girls should be trained to endure hardness, to face difficulties and overcome them, but the line should be sharply drawn when mental vigour and bodily strength and future promise of excellence are in danger.

And second in importance to the question of the strain on the scholar by the stress of too difficult and too frequent external examinations comes that of the narrowing of the point of view and the deterioration in the work of the teacher who is called upon to prepare candidates for examinations as the chief object of her work.

The teacher who teaches because she loves it, loves also to be free. That she should know, roughly, the ground she is expected to cover, is good for her perhaps, and good for her pupils—but better still is freedom for those delightful excursions in the by-ways which border the path and in which her pupils so keenly enjoy following her. Her scheme of work should guard her against too great discursiveness, and her sense of proportion should suggest what to omit—but with these safeguards she should be free to inform, to elicit, to interest, and inspire—that is, to teach in the finest and widest meaning of the word.

But if the teacher who loves her work and is in touch with her pupils feels that her work is to be tested in the first place by their success in an external examination on a syllabus she has not drawn up, and on the choice of which she has very likely not been consulted, and by examination papers set in too many cases by professional examiners who may be fine scholars but who have had no experience in teaching children, her work is in danger of becoming cramped and stereotyped. She gives information, she gets through "set books" and periods, but she ceases to educate. So many weeks, so many lessons to be followed by an examination of a hard-and-fast character, conducted by those who do not know her, or her teaching, or her pupils. Can anything be more deadening or futile to the progress of true education?

Granted that external examinations are to a limited

extent necessary, I plead for syllabuses sent up by the school on the work best adapted to the pupils in that school; and I plead also for examination papers, set by examiners who have taught children, who know that the vocabulary of boys and girls is limited, that their point of view will be that of the mind whose horizon is not yet very wide, that their intellectual grasp of words and phrases is only in process of development, that their physical power of writing in a given time is limited—in brief, that they are still at school.

The Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield has from the beginning been based on the principle of co-operation with the schools, and acting teachers have formed part of it, with the full rights of members.

The regulation dealing with the constitution of the Joint Board is:—

> The Joint Board shall consist of eighteen members, five to be annually elected by each of the Universities in Manchester, Liverpool, and Leeds, and unless by agreement between all the four Universities it shall be otherwise determined, three by the University of Sheffield with power to co-opt persons of educational experience to the number of four.

In practice one person has been co-opted from each of the four University areas; these persons have all been active teachers during their period of service on the Board, and it is recognized that such period of service is four years, one retiring each year. It may be said that when a member retires the representatives of the Universities more directly concerned are expected to bring forward the name of a suitable successor. There are no regulations governing the matter.

The co-opted teachers who already serve on the Board have been Head Masters of important Grammar Schools

in the North of England, Head Mistresses of High Schools, the Head of a Municipal Secondary School, and of a well-known Roman Catholic Secondary School for Boys.

It has been found in practice that the acting teachers are able to help in every department of the Board's work; the drawing up of regulations, where their help in detail is of course useful, the appointment of examiners, and the consideration of the results of examinations. They do not, of course, set the papers, nor do they take any part in the examiners' meetings which recommend candidates for certificates, scholarships, etc. But with this exception they share in the full administrative work of the Board. One has even acted as Deputy Treasurer. The usefulness of acting teachers has been particularly evident in the inception and organization of new schemes intending to meet the needs of the schools. This scheme must meet with the approval and support of all who desire to see effective and progressive reforms in examination systems.

And again, granting that external examinations are, to a certain extent, a help to school education, I would ask that they be limited to:—

1. *Languages*, in which accuracy in grammar, the fitting of thought to expression, phrasing and style in composition can be tested. No examination in languages should be considered complete without an oral part.

2. *Elementary Mathematics*, in which what is known can be or should be accurately, definitely, and quickly set down.

For scholarships in which higher mathematics must be tested, a school record that the subjects have been sufficiently studied under competent teachers might be accepted and allowed to replace at any rate part of the

examination, or the notebooks of the candidates for the two or three years previous to her examination might be shown, as is now done in the London Intermediate and Final Degree Examinations in Science subjects, and an oral examination given based on the work.

3. *History and Literature.*—I do not think these are good subjects for the written examination test: but if papers are set it is essential that the examiners should understand the intellectual capacities of the young student and have had actual experience in teaching. The examination paper, moreover, should contain a wide range of questions from which the candidates should be allowed to make their own choice.

In *Science* as far as possible inspecting practical work should replace the formal examination and textbook questions. In this connexion the words of the Science Sub-Committee on "Curricula of Secondary Schools," of which Prof. Gregory was chairman, may be quoted:—

> We are struck with the unanimity shown by our correspondents concerning the influence of external examinations upon the teaching of science. This influence is found to be harmful. The harm is produced partly by having to work along the lines of too rigid a syllabus, but chiefly from the fact that science is intended to teach *principles* while the examination asks for *details*. A boy may have derived the full benefit from a course of science lessons without remembering the experiments therein; for the examination, however, he has to memorize the experiments and to study how to reproduce what he remembers in the approved examination style. Anything further from the scientific method could not possibly be conceived.

In all that I have written I have referred to University Certificate and Scholarship Examinations as they are adopted in the best secondary schools for girls, and I give no place to preliminary and junior examinations for children under fourteen or fifteen. That any University should continue to encourage the external examination of

children and to give them certificates of University stamp is a matter of unfailing surprise and regret. I venture to deprecate the paternal supervision of all education by the State, but I would welcome an Act of Parliament or an Order in Council or an Edict of the Board of Education that, henceforth, it should be an educational offence to be punished by fine or imprisonment in the first division for anyone to send in a boy or girl under fourteen for a public examination of the character of those with which we are at present acquainted.

To sum up: University and other examinations have done excellent work and obviously cannot be altogether abolished. But now that the standard of school work is sufficiently high, and that the teachers know thoroughly what is good while also knowing the capacities of their pupils, it is time the schemes of examinations should be remodelled. The academic qualifications of the teachers are as good as those of the examiners—their other qualifications for their work are often better—but they are too often discouraged by the rigid requirements of examining bodies and by want of appreciation of all originality. While, therefore, recognizing their value and even necessity, I plead for greater elasticity in examinations and that a larger voice in judging results be given to the teacher.

The schools are alive. In them there is a constant reaching after improvement, a constant study of new principles and methods with a view to their adoption if proved better than the old.

Our work in the future is to maintain and even intensify the life, so that our pupils may leave us inspired with a right view of work and a desire to march forward on the roads we have opened to them.

FLORENCE GADESDEN.

CHAPTER XXIII.

PAPER I, READ AT THE CONFERENCE OF THE ASSOCIATION OF HEAD MISTRESSES, JUNE, 1909. AIMS AND IDEALS IN EDUCATION, AND SUGGESTIONS AS TO POSSIBLE REFORMS.

As Chairman of the Sub-Committee appointed to consider the Curricula of Secondary Schools for Girls, I have been asked to bring this subject before the Conference.

I will first very briefly state what the work of the Committee has been since November, 1908. In that month schedules were sent to some twenty-three Head Mistresses asking them for particulars with regard to the curricula in their schools, which for various reasons were considered to be typical. When these schedules were returned filled in, the work of examining and sifting the information began, and this is likely to go on for some time yet. Further information will doubtless be required before we have sufficient data on which to draw up a true report of what secondary schools for girls are now doing. We all know the trouble of returning statistics; we many of us know the trouble of collecting statistics. To make the game worth the candle we want to make this contribution to the history of education also fruitful in the cause of true progress in education. The progress of the greatest movements is often very slow, but there come moments when a long process arrives at a point where a change should take place because the time is exactly ripe for

such a change. The change may be small at the beginning, it may only be a slightly new bent, but long afterwards it is seen to have been important in its tendency, and gradually to have led on to great issues.

Now I believe that the enormous recent changes which have taken place in the conditions of life everywhere point to its being desirable for us to revise our school curricula to meet the present-day needs. The fact that recent years have seen enormous changes does not need dwelling upon here, but I will mention changes of two or three kinds in order to make clear to what influences I refer.

Social and Economic Changes.—Any of us here who can remember back twenty-five years have seen the most extraordinary development in social and economic affairs: the birth of this great development was, of course, some one hundred years earlier, but in our day the problems connected with it have taken on gigantic proportions. The chasm between the rich and the destitute was never wider than it is to-day. The immense population in cities stands for terrible keenness in competition. Any dislocation in trade or labour is a catastrophe of great magnitude, involving a complication of suffering and a danger of paralysis in agencies for dealing with it. These things must be thought of by those who educate the rising generation.

Changes brought about by Increase of Speed.—Again, I am thinking of the extraordinary changes in the conditions of living brought about by the inventions for increasing speed of every kind. We all feel the rush of these racing, over-full days. Even we who live in the country find everything going so fast that it is difficult to do anything well, and for those who live in great cities the rapidity of movement and the multiplicity of affairs

are more bewildering still. There seems to be too much of everything except peace and simplicity; there are far too many things of every kind; there are too many people in one place. Alas! on the one hand, there are too many restless, aimless lives, and on the other hand, there are too many tired heads and nervous breakdowns.

Changes in Thought.—Furthermore, we have seen other changes which lie in the region of thought and philosophy, so that we can no longer take for granted that the children we teach have been nursed in homes professing the Christian faith, or even any religion at all. Activity of thought and a longing for truth that has been personally sought for and found, are good signs of the times, but with this reverent, honest seeking for truth, how many there are who give up thinking altogether. The old, steady landmarks no longer meet the eye, and it is so easy to lose the way altogether and give up the quest. Thus many children are born into homes where there is no guiding hand in the region of thought and religion, so the schools have to take to themselves what ought to be first of all the prerogative of parents.

These and many other facts about the altered conditions of life do not, I say, need dwelling upon here, but we must see to it that we are not only interested spectators of these things, but we must be working, every inch of us, to bring up the young generation in a manner to fit the new conditions. Not only must there not be ignorance on our part, but there must be no waste of time, there must be as few mistakes as possible, and there must be a courageous correcting of mistakes made, and an enlightened going forward.

On the one hand are the problems around us, and over against them are the young people to be trained to meet them, and, if it may be, to help to solve them.

And here we must notice that during the last few years it has become the rule, and not the exception to the rule, for parents in every rank and position in life to send their daughters to public schools, or schools of a public school character, and even those parents who still prefer to have their daughters educated at home, seek for women who have been educated in public schools and at the Universities to be governesses to their children.

Again, in the last few years the County Councils have set up public secondary schools all over the country for girls whose parents cannot afford to send them to those existing secondary schools where the fees are higher. So that we have in the hollow of our hand almost all the girls of the country who are not being educated in the elementary schools.

Besides this, High Schools have sprung up in all our Colonies and in India, and these follow the lead of the schools at home, and many children are sent from our Colonies to public schools in England.

There surely never was a time of greater promise, and yet there is so much promise that falls short of fulfilment, and there is so much waste in place of fruitfulness. Some of us meet with disappointment especially in one shape, and some in another, and at this moment it is the failures of which we may most profitably think. The noble work that has been done and is being done in our schools by teachers and girls has to be made better still, and the flaws and weak points must be searched out and remedied and strengthened one by one.

This paper is meant to call forth debate, only I would plead that we dwell on and bring to light the weak points in our systems with a view to improvement.

I will enumerate what I find are some of the weak places, and this regardless of whose fault it is, only re-

marking that the Head Mistress is not invariably to blame.

1. *Too Much Attempted.*—In teaching ordinary school subjects we still try to cover too much ground, leaving little time for thought or discussion. We all want to get the child's thoughts at work, we all want her to grasp the reason for this or that fact, we all want to help her to express in words the thoughts inside her. Without this exercise in real thought, we feel that nothing worthy of the name of teaching or education has been done.

2. *Religious Training.*—With regard to Scripture lessons and all moral instruction, we have not enough peace and leisure to follow up the teaching with practical help in carrying out what the child has learnt, without which little good has been done. Here I do not for one moment mean we should lend the child a crutch to help her through all the difficult places; still less do I mean that we should preach her a private sermon on the top of the lesson given in class; but I do mean this—we need time to observe our children, and to observe when they want a helping hand, and to know who it is who is likely to be able to give it. It is by no means always the Head Mistress, and it takes time to find out these things. The Head Histress may have to lay the train, some one else may have to strike the match, and the fire itself is from heaven, but somehow or other the child must be *touched* as well as *taught*.

3. *Games.*—As to games, I think many of our games' mistresses, though in many ways so excellent, require to be more on the alert, like a keen and skilful physician, over the weaker members of the school. I do not mean treating spinal curvatures; that is being done as a matter of course. No, I mean the careful cultivation of

the shy and awkward girl physically, even if it means sometimes the wholesome neglect of the girl naturally good at games, who shines and always will shine. Better still is it to make the hero in the games glory in helping her weaker sister. It does not matter in the least how many matches a school wins; it matters infinitely to make every girl in our schools able to stand up to life physically. I think in schools where games are much played the tone and leading and views of the games' mistress are of the very first importance. But it takes time to tackle these things.

4. *Girls Going to College.*—As to girls going to the Universities, I think there is a danger sometimes in that they have *too much of books and too little of other things.* The most gifted of these girls may some day become Head Mistresses! And what are the qualities most required by Head Mistresses? Good health, a good voice, courageous spirits, common sense, true sympathy, endless power of initiative and of organization, facility in manipulating every kind of human being, and an all-embracing motherliness. These first, and a great deal besides. Other girls will enter other professions, but take any profession you will—doctor, nurse, inspector, social worker—all need, first and foremost, a mental grasp of great facts, a personal force that comes of wide-mindedness and large-heartedness, and wisdom which is the power of applying knowledge. The higher the position in any profession, the more need of these great qualifications. Now the best time to cultivate the tendencies towards these acquirements are the school-days when the girl's character is forming, so we must see to it that we are trying to manage her time-table and her surroundings so that she is in a fair way to grow up into a complete person, complete, that is, in

all her parts, and with all her senses alive and truly sensitive.

5. *School Days Too Full.*—I think there is a danger in our filling the schooldays too full. I suppose we should agree in looking back on our own childhood and girlhood, that the peaceful, quiet, happy spaces that came into our lives then were the growing times, and that now they are like the rock beneath our feet, telling us of the permanence of all good things. We cannot stop the whizzing and whirring of motors even in our most beautiful country lanes, but we must not let our schools be governed by a machinery that has no stops in it.

These I feel to be some of our dangers, and the remedy which I think would mitigate all of them is more time and less time-table, and I plead for this in the case of the college girl quite as much as for any other, in view of the immense and various demands, other than purely intellectual, that may be made upon her later. I would plead for deeper, better scholarship than ever, but for fewer subjects of study. If the head mistresses could be agreed on this point, I have little doubt but that the Board of Education and the examining bodies will sooner or later make the necessary alterations and concessions.

Home Life.—And now for alterations in our curricula of quite another kind. At first sight you will say I am contradicting myself, for I want more subjects in our time-tables. But I trust I may be found not to be inconsistent. I want fewer examination subjects for entrance to college and professional careers, partly because I want to do the few better, partly to leave a little space (it need not be much) for subjects bearing on life in general, and partly to leave time for the girl to think and live, as well as to learn lessons. In many of our

schools, however, the large majority of the girls do not go on to the University, and we must remember that the girl who is going to live at home may be just as gifted, have quite as great an influence, as the girl who is entering some professional career. And it is for these home-living girls that we want, I think, a great variety of subjects for the last year of school life. We have to cater for very many different kinds of homes and for very many different spheres of usefulness. I will speak of two kinds of homes.

First, there are the girls who, when they go home, may, if they please—and many of them do so please—live completely idle, luxurious lives, or they may be amongst the most useful members of society. They may marry Cabinet Ministers, or Presidents of our self-governing Colonies, or men of influence in town or country, and they may have children who will carry on their influence, good or bad, *ad infinitum*. For every girl who has the chance of returning to an idle existence after schooldays are over we should have the greatest anxiety. I know it is truly said, "Life is the great teacher," "We can't be providence to all the girls," "She will learn by her mistakes," "She is sound at bottom, and will find herself some day"—but surely there might be fewer wasted years if schools were more definite in their preparation of the home-going girls. School games may do much harm to some characters who love play so much more than work, if the excitement in games is carried to too high a pitch, and is allowed to be out of proportion to other school interests. When a school is charged with having taught a girl to "live for games," we answer "That is untrue; that is unfair; at school they play for one hour and work for six or seven hours, and now she is playing all the hours and working not at all. School did not teach this." This is true, and yet if the

spirit permeating school games is not right, harm will be done by the very agency which should have been one of the most helpful in making girls eager, keen, brave, and unselfish in playing the game of life.

And now we come to suggestions with regard to some ways in which schools may perhaps do more in the future than they have hitherto done, to make the home life, following school life, full of interests and fruitfulness.

Mental and Artistic Training.—In all that we teach them through books, music, drawing, and nature, we need first and foremost to teach them in such a way as to make them want to go on for themselves afterwards, along the lines which they have learnt to love. The examination element must be kept as much out of sight as possible, and both the teacher and the pupil must be given time in which to enjoy the work for its own sake, and the pupil must be allowed some voice in the choice of her reading and work during the last part of her school life. If the end of schooldays and the going home are looked upon as a relief from a burden of study which has been unwillingly borne, then manifestly the school has been a failure, at any rate with regard to the things belonging to the lesson hours. If, on the other hand, when the time comes to leave school, the girl has only begun to want to go on for herself, and is hungry to know more and eager to do better, then the school has won a triumph, whether the girl has passed any public examination or not. This girl has a spring of life and capacity in her which will be a source of joy and power to herself, and which will be passed on from her to others endlessly.

Service.—During the last part of school life the idea of definitely serving her generation in some way or another should be kept before the mind of the girl who is going

to live at home, and join what are sometimes called the leisured classes.

(*a*) *Service in the Home.*—She should have ideals of home life clearly in view, ideals as to family life, ideals as to hospitality, ideals as to manners, ideals as to everything which makes for the truest and best form of home. She should no doubt also have sound ideas as to domestic science and some working knowledge as to how to carry them out.

(*b*) *Service beyond the Home.*—A fundamental natural desire with all young people is for contact with life, and when a girl leaves school she often seeks for this only in the hockey field or at golf or in getting up dances and theatricals. If we could induce her also to seek for it in the real drama of life, if we could help her to understand something of the great social problems affecting lives very different from her own, then her own bit of society, together with all the joys and interests connected with it, would the more readily fall into its right place, and would be likely to be permeated with the right spirit; true hospitality would emerge again as a natural and wholly kindly spirit, and artificiality and vulgarity would begin to hide their heads.

I think much might be done whilst girls are still at school to help them to understand something of great social problems, and to give them a hope of some day helping to solve them. It will not be enough to put books on social subjects into their hands, time must be made for simple lectures and talks about these things. Boys and girls are inspired by men and women. We ourselves have been inspired by men and women. We can all remember the person here and there who has had a vitalizing influence upon us, which we felt once and feel to-day. We can point out that social evils are to be remedied by a patient study and understanding of them, and by personal individual handling of personal individual needs. We can make girls understand the fundamental truth that a man is only enriched in so far as his sphere of interest is enlarged. Whether a girl on leaving school desires to

qualify herself thoroughly for work of this kind or not, she should not be allowed to escape the conviction that she ought to read and think about these things. She must be saved from doing harm when she tries to help her poorer neighbours; she must be put upon the right track; she must be taught how to escape from despair on the one hand, and from idleness on the other, by learning the truth that the wisely directed efforts of one individual are bound to count sooner or later towards the good of the whole community.

Secondly, there are again the girls who belong to the strenuous hard-working lower middle class, who may marry young, who probably do marry young, and whose homes should form one of the strongest strata of society, and upon the mother principally depends the physical, mental, and moral character of the homes. She has to go forth from our schools to supply the fire to keep husband, sons, and daughters going in the battle of life. Upon her, humanly speaking, depends the victory or defeat in this battle, and upon the victory or defeat which each home sustains stands or falls the nation. The trade of the nation—is it to be corrupt or pure? The wits of the nation—are they to be keen or dull? The health of the nation—is it to grow stronger or more feeble? The morals of the nation—are they to be high or mean? This girl we turn out of our schools has to give an answer to all these questions—to questions of this magnitude. Are we helping to give her the power to answer them bravely and patiently? We must see to it that she knows solidly and scientifically the things that affect the physical health of a home; we must see to it that she understands the underlying value of education, in order that she may in future years welcome every bit of true education for her children. She must understand

the calling and dignity possible to the community to which she belongs. She must desire her home to be firmly set as a stone in a fabric that is to last, and grow in power and true usefulness. This girl will need to gain at school ideals of a very high order, and a well-balanced character, and a mind and heart furnished with a stock of provisions that will keep her going when she scarcely has time to replenish it.

For all these home-going and home-making girls we need time to make books and art real lasting possessions, to enrich their own lives endlessly, and also the lives of those with whom they come into contact; we need time for lectures on the social problems that they are going to meet; we need to give scientific knowledge of domestic arts and practical training in them.

So I plead for more choice, more variety of subjects in the time-table for the last year of school life, and let us ask that the Head Mistress be left free to initiate the schemes suitable to the particular school of which she is the head. Some Head Masters and Head Mistresses have felt so hampered by the exigencies of earning Government grants, or of passing their pupils through public examinations, that they have given up working in public schools for the joy and the usefulness of moulding a private school according to their highest ideals. These experiments and private ventures do much to enrich the profession, but we who have the honour to belong to this great Association shall perhaps do more if we can help to bring about improvements, and encourage variety, and further true progress in the work of the Public Secondary Schools for Girls in England, and this not forgetting that the influence flowing from these schools reaches to every part of the world.

I therefore earnestly hope that the whole Association

will encourage the Curricula Sub-Committee in the work of bringing out a report that will include a survey of the history of secondary education for girls, and also suggestions of constructive policy for the future.

M. A. DOUGLAS,

Chairman of the Curricula Sub-Committee.

CHAPTER XXIV.

PAPER II, READ AT THE CONFERENCE OF THE ASSOCIATION OF HEAD MISTRESSES, JUNE, 1910, AIMS AND IDEALS IN EDUCATION, AND SUGGESTIONS AS TO POSSIBLE REFORMS.

WE are not content with any level of excellence reached, we are always seeking the way of true progress. To this end we must—

I. Perpetually clear the eyesight so that the vision of the true goal of education may be seen truly.

II. We must then make "straight paths for our feet," removing all hindrances which obstruct and retard the journey to the goal.

III. We must use all available help towards providing for as rich and full an inheritance as possible for the children we educate when they pass from our care.

Let us therefore reconsider :—

I. *The Goal.*—Let us clear our vision as to that first. All teachers are agreed that the fundamental and highest aim of education is the formation of character, the right, natural, and balanced development of the physical, mental, and spiritual powers of the child; and the reason why we wish to develop the character of each individual as perfectly as possible, is that she may be ready to live her own life as fully as possible, and to contribute to the community as much as it is possible for her to contribute. We desire the truest and most complete welfare of the individual, and we desire that

the welfare of the one shall be part of the welfare of the world to which she belongs.

We have to consider what are the natural forces for good inherent in every human being, and we have to try to develop these as harmoniously as possible, leaving none of them neglected. We have also to consider what are the permanent and universal conditions of the society of which the individual is a unit. Side by side with these general considerations, we have to take into account the particular gifts, the particular opportunities, the particular circumstances of each individual. We have to go on studying child nature, and we have to go on studying the changes in the environment of child nature, for though the child's nature may remain the same, the environment of the child is perpetually altering past recognition, and the educator has to take as much account of the one as of the other. His business, we may say, is with child nature, but on that very account he must do all in his power to prevent the environment deforming the child's nature, and he must show how the child may after all be master of the situation.

Although we have been directed along the right path by a glorious line of leaders, the last word on the subject of education has not yet been said, and will never be said as long as the world lasts.

Jean Paul Richter says it is of far more importance whether "an angel or a devil" teach, than that the teacher be learned or simple.

Ruskin says over and over again that taste, reverence, truth, kindness, and the dignity of labour are the essential concerns of education.

George Meredith (as represented by Prof. Foster Watson in "The Nineteenth Century" for February, 1910) says that education ought to encourage, amongst other things,

respect for individuality, the sense of the comic spirit leading to the preservation of sanity of judgment and attitude, open-airness (by which he means actual contact with the open air of the mountain side, and all actual contact with nature), thwackings to all pride and sentimentalism, cosmopolitanism, and the optimism that hopes for good for the world.

And we might multiply quotations from all the philosophers who have thought truly about education, and we should find the same conviction that education is concerned with drawing out all the powers of the child so as to make him as far as possible "master of his fate," and a contribution to the welfare of the state or community to which he belongs.

Our public secondary schools make this very claim, that above everything else they train those committed to them in character, and with the object of helping to fit them to meet life and deal with it and use it and live it when school days are over. This claim is just, but in how many hundreds of cases it is not justified! How many lives there are, after school days are over, which are poor instead of rich, when we see good promise running to waste, and disappointed hopes instead of glad progress. To know whether education has been successful or not we must look at the result of it five or ten years afterwards, and see whether the seed sown was the kind that will go on bearing fruit, whether the principles laid down were solid enough for a building of fair proportions and lasting strength, whether the labour bestowed was of a reproductive kind tending to the multiplication of all good things and the diminishing of evil, whether the full, happy school life was just of the kind to give to each child the secret of true enjoyment of life. We all mean to do the best in the true interests of the child, but we

cannot but see that much progress is still to be made in the science of training character so as to match the burdens, the responsibilities, and the joys of life. If the girls in our public schools could all be trained to shoulder their responsibilities towards the home and the state, a gigantic force would be set in motion to fight the worst social evils. At the one end of the social scale there is a culpable waste of energy through luxury and idleness, and at the other end of the social scale there is an awful waste of life through poverty and idleness, and the waste of the first kind stops many of the supplies which would prevent the waste of the other kind; if the one flood of waste could be stopped, it would go far towards stopping the other.

Every school day must be planned with the clear and single view of giving such a training to the whole being of each girl that her physical, mental, and spiritual growth may be natural, strong, and healthy. We must strive to train her body, that it may be strong, alert, controlled; we must strive to train her mind, that it may be alive and expanding; we must strive to train her will and affections, that they may be well placed.

Every teacher, no matter what subject she teaches, must train herself and be trained by the school in which she is working, to observe the great principles on which the school stands. We cannot afford to do without the intelligent help of each member of the staff in trying to accomplish the aim of building up a complete character.

We will therefore now consider what is the training required for every girl, no matter what her future career, and considering only the one fact that she is growing into a woman.

Although no hard-and-fast line divides the physical,

mental, and spiritual regions of a child's nature, we may conveniently consider each region separately.

1. We are all completely agreed that bodily health must be the first consideration in planning her training. If anyone says, "Mind is more than matter," we answer, "No woman can possibly be too strong physically, and there is nothing that will help the mind more than a healthy body". If anyone says, "The soul is more important than the body," we may answer, "Nor soul helps flesh more, than flesh helps soul". We are convinced that nothing in this world must ever be once allowed to interfere with the most satisfactory physical development and welfare of the child. The Head Mistress has many claims to face; progress in lessons, zeal of assistant mistresses, plans for games and true recreation, ambition of parents, fashion, poverty of pupils and need for scholarships, examinations, demands from the Board of Education, and so forth. If the claims of any one of these things seem at times to be irresistibly insistent, we must yet resist them, as we should resist the entrance of a deadly disease, for any sacrifice of bodily health and capacity is a sacrifice which compels a holocaust of other victims. The reports on physical training and resident schools deal with this subject in detail.

2. In the next place we must consider what sort of mental training every girl requires. There seem to be four distinct provinces of mental training which must be represented on the time-table.

(*a*) The thinking powers must be trained.
(*b*) The love of beauty must be trained.
(*c*) The powers of expression must be trained.
(*d*) Home arts and duties towards the home and the State must be taught.

(*a*) All good teaching at the present time on every

subject tends to develop accurate and consequent thinking, so that one subject is hardly to be valued above another for training in thought. I believe that every subject can be made a vehicle for training in conciseness in thought, breadth of thought, accuracy or truth in thought; in processes of reasoning, comparing, marshalling, deducing, formulating ideas, in the training of the concentration of the mind on the matter in hand, and of the memory for retaining it afterwards. I think it is extremely important that the advance in the scientific teaching of every subject should be borne in mind in determining the number of subjects necessary to have in the time-table, and it seems probable that too much time has latterly been given to trying to advance the child in many subjects, and that too little time has been given to the training of the love of beauty; the powers of expression; and above all too little time has been given to the teaching of duties towards the home and the State.

(*b*) By the training of the love of beauty I do not mean the training given by the music and drawing lessons only, though I believe every girl can be trained to admire and delight in good music and good pictures, and for the average girl that is what we should hope she would gain through her music and drawing lessons. Side by side with the acquisition of any degree of skill in playing an instrument or in drawing, and in some cases in the place of further performance, where the capacity to perform is very weak, there should be an opportunity for the acquisition of the power of observing and admiring, the attitude of listening and wondering, the capacity to be influenced by beautiful things. There are a hundred ways of training children in the love of beauty. First and foremost times out of doors in

beautiful places, the reading aloud of poetry just for the beauty of it, the learning of poetry by heart if a girl wishes to do so, the listening to good music, and seeing good pictures, all these things which make for peace and beauty are particularly essential in the age of increasing unrest in which we live, but it will be obvious that this branch of education cannot be cultivated without space and time for the purpose. There is one safeguard to be observed in all efforts to develop the girls' individualities, and especially perhaps in trying to train their sense of what is beautiful; *they must not know too much about our efforts*, or affectation, and self-consciousness may take the place of that very sincerity which is one of the things we most desire to see. Our work, as has been said to me by one of the truest of teachers, must be reserved, unobserved, and hidden under a mantle of plain dealing.

(*c*) By the training in powers of expression I mean that every girl should be taught to express well that which it is desirable that she should express. We teachers cannot be sure that we have taught a girl anything, unless she has so made it her own that she can express it, i.e. give it back again as it were in her own way; e.g. we try to teach them to dress well and suitably, and one glance at the trim or slovenly girl will tell us whether our lessons in this respect have been so learnt that the girl can express herself in the matter of dress. So with walking and holding herself well, so with speaking and reading aloud, so with writing—both the legible "hand" and the clear style—so with such small actions as pulling a blind up and down straight, and opening and shutting a door—who does not know the child who never really shuts the door but lets it burst open again—so with manners, children have kind hearts, but their manners must express this fact.

If training can help them to a right expression of the good feelings they possess, then time must be found to attend to this very important part of education. They must not be allowed to go about with glum or worried faces; they must not be allowed to speak roughly or sharply; they must not be allowed to do clumsy and awkward things. Many a woman loses a post because she has been denied training of this kind, and many women have little influence at home or in society or in trying to do public work, just because their powers of expressing themselves well have not kept pace with their power of absorbing facts, and their genuine desire to do good work. The finished expression by a girl of the in-take provided by a good school takes time to acquire, but I say again that the power of a life is connected at least as much with the former as with the latter.

(*d*) If too little time has been found in many of our schools for the training in the love of beauty, and in the power of expressing that which needs to be expressed, I feel that there has also been a deficiency in the teaching of home arts and of the duties towards the home and the State. If this is true then it is imperative that some strong corrective shall be applied to our time-tables. We must find time to teach every girl the lessons that will help her to fulfil her functions towards the home and the State. I know it may rightly be said that every school has many points of resemblance both to a big family, and to a tiny State, and in the lower and middle forms the tone and methods of a good school may provide sufficient training in understanding and fulfilling many relations of life. The position between the governing powers and the governed; the give and take amongst equals; the co-operation of all for the good of the whole, whether the whole be a form or a house or the whole

school; the division of labour and the proper adjustment of offices and bits of work to the proper individuals; the almost motherly relation of the big to the little girls; and the sisterly relations between those on a level; all these things belong to school life, and they also belong to the home or to the State or to both. But before a girl leaves school she should have had definite teaching in domestic arts, and also sound and inspiring instruction on the claims which home life will make upon her, and on the claims which the community and the State will make upon her. The Papers on Home Arts will show how strongly and rapidly the opinion has spread amongst us that if this subject has been somewhat neglected in the near past it must be neglected no longer, and I would plead that every girl at some time or other in her school course should have lessons in cooking and needlework, housewifery and the common sense laws of health. For the girl who is to have a home of her own they are of paramount importance, and they are hardly less important for a woman who may spend all her life in some professional work, for her time and nerves and health will be saved by a sound knowledge of these necessary ingredients in the art of living our common human life. Besides the administrative side of family life which is represented by what are called home arts, much can be done at school by reading and talks, to make the natural thought about home turn to high aims and the formation of ideas as to the share every woman can have in infusing the best spirit into family life. The absence of any report on the teaching of duties to the community and to the State does not mean that no such teaching is given. It is given in many ways, and by many means. First and foremost by the means, as I have already said, of the complex and united life of a good school, and also by

definite instruction through the history lesson, or by debating societies, or by lectures on social conditions and municipal affairs suitable to school girls, and the much-welcomed reformed "Missionary Meeting" which helps us to understand such problems as meet us in India or South Africa. But we would desire to have time to help to prepare girls even more satisfactorily than hitherto for meeting life as they will find it, and for going forward to meet it in the spirit of the humility and the power which come of knowledge of the facts, and in the spirit of willing service which comes of sympathy wisely awakened. I have left all the excellent papers on various subjects to speak for themselves, and I have tried to deal only with some of the main channels through which the stream of mental nourishment should flow.

We must next consider how best we can help to educate the spiritual part of the child's nature—the will and the affections. We desire to see growing in the child a sense of responsibility, meaning thereby a readiness to respond to the calls which belong to the higher side of human nature. As the eye responds to light and the ear to sound, so the human heart should be touched, and the human will fired by legitimate and natural correspondences, and the result of this correspondence in the case of the heart will be sympathy and in the case of the will, service. It is perhaps especially difficult to treat this third region of a child's nature as if it stood alone, and it would be both unscientific and undesirable to do so. These highest functions are highest not only because they should control the lower functions, but because they are capable of absorbing into themselves all that is best in the whole complex human being. This fact gives to our task at this point its supreme dignity and importance, its evident difficulty, and its boundless

opportunity. There is literally nothing that belongs to physical and mental education that does not impinge upon this other region where the will and the affections are at work; there is nothing in the whole of everyday life and school existence that does not bear for good or for evil upon the very spirit and heart and kernel of the child's being. Therefore it is not only the Bible lesson or the lesson on Christian ethics; it is not only the school prayers and the reverently kept Sunday; not only the Confirmation and other devotional classes; not only the introduction to the elder girls of Thomas à Kempis, John Bunyan, John Keble, St. Francis of Assisi, or the works of Dr. Gore or Dr. Dale, that will kindle a right enthusiasm, that will touch their truest imagination, that will purify their desires, and fortify their wills; everything that belongs to their school life may assist in developing their highest and best qualities. But for the growth of the very best and choicest flower, in order that it may bring forth the sweetest and richest fruit, there must be time to take care as to every detail that will affect its proper and natural growth. There must be time for the gardeners to do their part, and space and air and dew and sunshine for the plant. There must be care to shield it from too stern a blast, and courage to allow the cold winds of discipline to have their bracing work; there must be watchfulness against hidden and poisonous blight caused by any lowering of school tone; there must be the unsparing knife if required; and above all there must be the liberal hot sunshine of deserved praise and love which literally creates the atmosphere in which growth and life can thrive.

II. We must make "straight paths for our feet," removing hindrances, correcting mistakes.

The time-table must be simplified, or to put the same

conviction in other words, there must be more time and less time-table.

Why is this simplification of the time-table desirable? There are many reasons, and we can probably all of us think of many.

1. There is imperative need for quiet schooldays, since the rush and pressure outside school has increased and is increasing rapidly, making excessive demands, and needing a reserve of strength to meet them. Young growth throughout the whole realm of nature demands time to get nourished, seasons of rest, space to grow in, protection from agents of destruction, and for the proper growth into fruitfulness of the human plant we need to place barriers round it in earlier years to guard it from all destructive pressure, just as the careful forester puts a railing round a young forest tree—no railing no tree, in many cases.

2. There is urgent need for more time for subjects of supreme importance which in the near past have not, in our opinion, received the attention which present-day needs require that they should now at any rate receive. I have indicated these subjects earlier; I will repeat what, in my opinion, some of them are:—

(*a*) The cultivation of the sense and love of beauty.
(*b*) The more complete training in the manifold ways of expressing that which needs to be expressed.
(*c*) And especially definite preparation of girls to fulfil their duties towards the home, the community, and the State.

3. There is need to find time in the day, not necessarily in the time-table, for many things which tend to build up character in the way in which we wish to see it built up. The girls need time for reading good literature which may be chosen by the girl herself from the school library; for being out of doors and for getting to beauti-

ful places; for social intercourse with one another, for some kind of philanthropic work, and for thinking about those less fortunate than themselves; for occasionally listening to good music and seeing good pictures and beautiful buildings. We are trying to find time for all these things, and we do find some time, but in how many individual cases the best things in education have to be given up because of the exigencies of the school time-table.

4. There is too much anxiety about examinations.

5. There are too many subjects to do any of them thoroughly.

How can this simplification of the time-table best be effected? By recognizing more clearly than ever before the relative importance of subjects, and by selecting fewer, but so as not to neglect any essential element in true education. There are some subjects that cannot be left out in the time-table without neglecting some province essential to the development of the child's whole being, but within each province there might be a wider choice of subjects coupled with a wise limitation in subjects of equivalent educational value, and thus time would be found for supplying the lack of education in other directions, and mistakes could be corrected in the light of experience.

And now I come to the most difficult part of my task, for no two of us here present will agree as to the best possible curriculum or distribution of time, and even if we all agreed, we should have to convince not only all the parents but the examining bodies who control the entrance to the universities and professional careers, and the Board of Education, though this task would not perhaps be a difficult one, as I believe individually every member of every body of examiners and every member

consider what are the different fields on which thought must be exercised.

(*a*) First there is the great field of human affairs. Knowledge of these affairs, wisdom and guidance in dealing with them, and inspiration to deal with them strongly and nobly—these lessons are learnt through the history and geography lessons and through literature in so far as it deals with human life. The history, geography, and literature lessons are well given if they make the child eager to explore. The ground actually covered by work at school need not be much; indeed, in the face of the vast regions that stretch out on all sides beyond the best work attempted, it can be but little. Let us not worry about that, but let the teacher be masterly, inspiring, and patient, and let the pupil have time to think over the little learnt.

(*b*) Then again there are the subjects which give the power of observing exact truth and of testing the truth of the observation. Some knowledge of the laws that are embodied in and govern mathematics, science, and music will be given at school, but here again there might perhaps be more selection—for instance, if a girl is musical as well as mathematical she might be given in her last year the choice between writing a musical composition and doing mathematical problems.

(*c*) Other lessons will group themselves as of the kind to awaken the æsthetic sense, such are all forms of art, including poetry and prose looked at from the artistic point of view, and into this group we may put Nature Study in so far as it really brings the child close to the heart and source of all loveliness. Here surely a wiser distribution and selection might be made than is sometimes made. Why should an unmusical girl spend an hour a day on trying to learn to play the piano, when a

wiser selection of this kind of food might be less expensive of time, and far more nourishing to the nature of the particular individual. I know that it is not now the fashion for every girl to learn the piano, but there ought to be some other subject given in its place which may cultivate a love of beauty.

(*d*) There are again the lessons which train the pupil in the power of expressing herself, those lessons which tend, by shaping and polishing, to render the instrument serviceable and finished for its work. Such lessons are the reading, writing, speaking, and singing lessons, the lessons in drilling and walking, and the countless lessons by the way and out of school hours, which will be administered by the watchful head mistress and her staff. We remember that smart regiments are made up of individually smart soldiers, and their outwardly alert and workmanlike appearance is a real indication that they are likely to do good work.

In the type of school where the leaving age is eighteen or nineteen, and in which some of the girls are to go on to the university and professional careers, and the majority are to finish their systematic education at school, and will then return home, I have been thinking that the following scheme would perhaps meet some of the problems before us:—

Up to sixteen years of age we should probably all agree that avenues must be opened up, and aptitudes discovered, and broad foundations laid. The curriculum must be wide, and we must avoid over-weighting one kind of education, and the overcrowding to be avoided is the overcrowding of the whole day, the overstraining of physical or mental powers. Width, balance, honesty in the work attempted, and the right way of working are the points to be kept in view at this stage.

The actual subjects which seem to me to be necessary to have on the time table are:—

Divinity.
English. (Including writing it well, reading aloud well, and learning to love to read both prose and poetry.)
Geography and History. (Including outline knowledge of countries besides our own, and the knowledge of our own times.)
One foreign language.
Arithmetic and geometry.
Nature study.
Music. (Not necessarily playing an instrument, but singing and knowledge of music leading to the appreciation of it.)
Drawing.
Drill and physical exercises.

After sixteen I suggest that every girl should study:—

Divinity.
English.
History.
One foreign language.
Art.
Domestic science, with practical work attached.
Lectures on duties to the home, the community, and the state.
Drill.

If the normal length of hours for study is six and a half on five days in the week, and two and a half on Saturday, this gives thirty-five hours a week and includes music and preparation of work.

If the time after sixteen were divided in the following manner it would leave a margin for a special study:—

Divinity, two hours.
History, four hours.
English, four hours.
Foreign language, five hours.
Art, five hours. (Either musical knowledge and drawing, or art knowledge and playing. If love of beauty cannot be called out by this means then we should try architecture or nature study or provide some equivalent food.)
Domestic science and practice, four hours.
Lectures on the home, the community, and the state, one hour.

This is the minimum of what I believe are suitable and necessary subjects for every girl to study in preparation for her life as a woman.

These lessons will take up twenty-five of the thirty-five hours, leaving a margin of ten hours for her special study, and if her special study is one of those already provided for, the additional time will be added. Thus if history be her special study during the last two years, she can either have fourteen hours for history, or she can divide the fourteen hours in some way that will enrich her history study. She might for instance study a second foreign language to help her with historical research. If her special study were to be science she would have ten hours for that plus the four hours devoted to domestic science. If her special subject is mathematics she will have ten hours for that. If her special study is languages then fifteen hours divided between the different languages she would be studying, i.e. three for French if she has already studied that language exclusively, and six for Latin, and six for Greek or German.

This scheme or some other similar kind of scheme would seem to fit girls either for home or for the preparatory step to a professional career.

Why should not the universities one day be content to set for entrance examination :—

1. A reasonably advanced paper on the subject which it is intended to study at college.

2. A paper testing knowledge of English literature and English history, including present-day questions.

3. Another subject to be selected by the candidate from a long list of optional subjects. The list might give a chance to such subjects as musical composition or drawing or even to manual skill—anything to show the capable, industrious girl who has gained some mastery over a subject which she loves.

A woman's life does not end when she leaves college with her degrees; it is just beginning, and no matter what her career afterwards is to be, she needs knowledge of life and how to deal with it. Even if she is such an exceptional kind of person that she is to spend the rest of her days in a laboratory doing original work for the benefit of the human race, she must still have a little time in which to breathe other air, and need not be shut out by her education from the joys of music or other forms of art and beauty, or from the sympathetic knowledge of home and social affairs.

Besides the girl who looks forward to special training for a professional career after school days are over, there are the many others whose systematic educational training will end with school days. I should prefer to have a possibility on the time-table for both these kinds being taught together in the subjects which I have named as essential for all, and provision being made for differentiation in their special studies, the home-going girls would then be free to choose mathematics as their delight and special pursuit if their taste lay that way, or they could have the extra time for music, drawing, or anything else they chose to go into with special thoroughness. As things are now, with the excessive, as I think, demand from examining bodies and the Board of Education, it seems necessary to divide with a sharp line the girls preparing for a professional career from the others, and it is, in my opinion, far better bravely to do this than to force the girls not going on to further training into the narrower curriculum prepared for those whose education will be carried on systematically beyond school days. There may be an economical difficulty in providing the staff for this differentiation, which would account for the

tendency in some schools to make the home-going girl take the same course as the girl who is going on to college. Ideally, however, it is bad economy not to give the training exactly appropriate to each girl for the life she will lead after school days are over. This paper is meant to deal with hopes and ideals, and it is easy to see that many leaders in educational thought are feeling after a readjustment of school schemes to meet the fresh needs of the present day.

To guide us in any endeavour to assist in this work, we have the rich experience of those who have gone before, and of those with whom we are now associated, and the additional experience gained by every day spent in our own schools. Besides this light of experience, I have tried to show that we have some gigantic finger-posts pointing towards the future. They stand out, pretty clear to see, amid the rapid developments and bewildering complexity of human life around us, but it is absolutely essential to our children that we do discriminate between them, for some of them point the way of true progress, and some of them are danger signals pointing as surely to the way of disaster.

I said at the beginning of my paper three things:—

I. We must look steadily at the goal of true education.

II. We must make straight paths for our feet in order to get as near the goal as possible.

III. We must use all available help towards providing for as rich an inheritance as possible for the children committed to our care.

I have tried to deal with I. and II. I end by saying that it is on account of this third claim upon us that we are all gathered here in conference together. If there is one lesson the founders of this Association taught us, it

is to stand by one another in our work, to seek together after true progress, and to try humbly to follow their examples who literally gave up their lives to the service of the girls of this country.

M. A. DOUGLAS,

Chairman of the Curricula Sub-Committee.

APPENDIX A.

Two Examples of a School Course in Bible Study.

I.

Forms II, III, Upper III.—The Gospel story as a whole, using all three evangelists. Also Old Testament heroes, i.e. the Patriarchs, the founder of the nation, the leaders, kings, and prophets: narrative and the easier teachings.

Form Lower IV.—Revision according to the condition of the children's knowledge. New girls enter at this stage.

Form IV.—The Acts of the Apostles.

Form Upper IV.—The history of the Hebrews to the time of Christ and its connexion with that of the Ancient Empires. The history of the Semitic world, and the geography of Palestine and the other Bible lands are taken for history and geography during this year.

Form V.—The study of the Gospel narratives and of the life of Christ as recorded in them jointly, each evangelist being used to supplement the other three, and the special contribution and interest of each being noted.

Form Upper V.—The teaching of Christ on life and conduct treated so as to bring out systematically the ideal of human life in which the ethical teaching of Christ consists.

To complete the scheme there should be in

Form VI the Acts and Writings of the Apostles and foundation of the Christian Church.

II.

Forms.	*Old Testament.*	*New Testament.*
I and II (2 years' course).	Stories from the Patriarchs.	Stories from the life of Christ.
Lower III.	Moses and the Exodus.	Stories of the Apostles.
Upper III.	Joshua and the entrance into the Promised Land. Some stories from Judges. The story of Ruth.	Simple lessons on the teaching of Christ, beginning with the two great commandments. The Lord's Prayer. Simple parables.
Lower IV (1, 2).	Samuel. The early kings. The division into two kingdoms.	The Gospel according to St. Luke.
Upper IV (1, 2).	The later kings. Elijah and Elisha.	The Gospel according to St. Matthew.
Lower V (1, 2).	The fall of the Northern Kingdom. Amos and Hosea. The Southern Kingdom. Messages from Isaiah. The Captivity. Jeremiah and Ezekiel. The Return. Ezra. Nehemiah. Haggai and Zechariah.	The life and work of St. Peter and St. Paul (i. e. the chief part of the Acts).
Remove (Special Form, 2 years' course).	Great epochs in Jewish history.	(i) The life of Christ. (ii) The lives of St. Peter and St. Paul (i.e. the chief part of the Acts).

So far the Old Testament and New Testament courses are taken concurrently or for a half-year each. In the Upper Forms one course leads on to another without exact division of time.

Form V.—(i) Review of Old Testament history, bringing out as far as possible the development of moral and religious ideas. Some very simple lessons on the structure of the books of the Old Testament.

(ii) Outline history of the Jews from the Return from Captivity to the death of Herod the Great.

Form Lower VI.—(i) Introduction to the study of the Gospels, i.e. their relation to each other, etc.

(ii) The life of Christ from the Synoptic Gospels.

(iii) The supplementary account given by St. John's Gospel.

Form VI.—Life and letters of St. Paul.

Note.—"The criticism that may be made on this scheme, and possibly a weakness in it, is that in its attempt to give a comprehensive survey of the main books of the Bible, it lacks the detailed study of the text, and from the point of view of the text it is chiefly concerned with 'rapid reading'. In the New Testament course, however, there is more detailed study of the text in Forms V and Lower VI in studying the Gospels, the Acts, and the Epistles. In the Old Testament course it would be very desirable to introduce a careful study of a part of a book such as Isaiah; the difficulty is to find a place in the scheme for it. I am hoping to make the present VIth Form course extend over two years, taking one and a half years or five terms for St. Paul and then to have a half-year or one term for more detailed study of part of Isaiah. At the same time the comprehensive Old Testament scheme gives a better sense of proportion than the more thorough study of one or two books, and also makes it easier to omit whole sections or particular passages which present special difficulties. The learning of selected passages by heart gives to some extent the desired familiarity with the actual text."[1]

[1] I quote this note, as well as the scheme itself, from the Head Mistress to whom I owe the information.

APPENDIX B.

EXAMPLE OF DAILY BIBLE READINGS AT MORNING PRAYERS.

First Series.—Showing, in Sequence, from the Gospels, the Life of Christ.

I. The years of preparation. 4 B.C. to A.D. 27.	(1)	Matt.	II. 1-23.
	(2)	Luke	II. 1-40.
	(3)		II. 41-52.
	(4)		III. 1-18.
		Mark	I. 9-13.[1]
II. The early ministry between our Lord's baptism and the imprisonment of John the Baptist. March to September, A.D. 27.	(5)	John	I. 1-18.
	(6)		I. 19-34.
	(7)		I. 35-51.
	(8)		II. 1-12.
	(9)		II. 13-25.
	(10)		III. 1-21.
	(11)		III. 22-36.
			IV. 1-30.
	(12)		IV. 30-43.
	(13)		IV. 43-54.
	(14)	Luke	IV. 14-32.
	(15)	John	V. 1-23.
	(16)		V. 24-47.
III. The ministry in Galilee up to the time when the Pharisees and scribes from Jerusalem seek to destroy Him. September, A.D. 27 to March, A.D. 28.	(17)	Mark	I. 14-20.
		Luke	V. 1-11.
	(18)	Mark	I. 21-34.
	(19)		I. 35-45.
	(20)		II. 1-22.
	(21)		II. 23-28.
	(22)		III. 1-12.
		Luke	VI. 12-19.

[1] Cf. Luke III. 21, 22; IV. 1-13.

	(23)		VI. 20-49.
	(24)	Matt.	V. 1-12.
	(25)		V. 13-26.
	(26)		V. 38-48.
	(27)		VI. 1-34.
	(28)		VII. 1-29.
	(29)	Luke	VII. 1-10.
	(30)		VII. 11-17.
	(31)		VII. 18-35.
	(32)		VII. 36-50.
			VIII. 1-3.
	(33)	Matt.	IX. 27-38.
	(34)	Mark	III. 20-35.
		Luke	XI. 1-26.
IV. The teaching by parables. The training of the Twelve. The ministry round about Galilee, north and east. March to August, A.D. 28.	(35)	Mark	IV. 1-25.
	(36)		IV. 26-34.
		Matt.	XIII. 24-52.
		Mark	IV. 35-41.
	(37)		V. 1-20.
	(38)		V. 21-43.
	(39)		VI. 1-29.
	(40)		VI. 30-44.
		John	VI. 4.
	(41)	Mark	VI. 45-56.
	(42)	John	VI. 22-71.
	(43)	Mark	VII. 1-23.
	(44)		VII. 24-37.
			VIII. 1-9.
	(45)		VIII. 10-38.
			IX. 1.
V. From the Mount of Transfiguration to Jerusalem.	(46)	Mark	IX. 2-13.
	(47)		IX. 14-32.
		Matt.	XVII. 24-27.
	(48)	Mark	IX. 33-50.
			X. 1 to "Jordan".
	(49)	John	VII. 2-10.[1]
	(50)	Luke	X. 1-16.
	(51)		X. 17-24.
	(52)		X. 25-37.
	(53)		X. 38-42.

[1] Also Luke IX. 51-62.

VI. At the Feast of Tabernacles. September, A.D. 28.	(54)	John	VII. 11-36.
	(55)		VII. 37-53. VIII. 1
	(56)		VIII. 12-30.
	(57)		VIII. 31-50.
	(58)		VIII. 51-59.
	(59)		IX. 1-23.
	(60)		IX. 24-41.
	(61)		X. 1-21.
VII. Between the Feasts of Tabernacles and of Dedication. September to December, A.D. 28.	(62)	Luke	XI. 1-13.
	(63)		XI. 37-54.
	(64)		XII. 1-21.
	(65)		XII. 22-40.
	(66)		XII. 41-59.
	(67)		XIII. 1-21.
	(68)		XIII. 22-35.
VIII. Outbreak of violence at Jerusalem followed by absence from Jerusalem including the Perean ministry. December to April, A.D. 28.	(69)	John	X. 22-42.
	(70)	Luke	XIV. 1-24.
	(71)		XIV. 25-35.
	(72)		XV. 1-10.
	(73)		XV. 11-32.
	(74)		XVI. 1-17.
	(75)		XVI. 18-31.
	(76)		XVII. 1-19.
	(77)		XVII. 20-37.
	(78)		XVIII. 1-14.
IX. The raising of Lazarus at Bethany. The determination of the chief priests and Pharisees to "put Him to death," and His resort to Ephraim until the approach of the Passover week.	(79)	John	XI. 1-28.[1]
	(80)		XI. 45-54.
	(81)	Mark	X. 13-31.
	(82)	Matt.	XX. 1-16.
	(83)	Mark	X. 32-45.
	(84)	Luke	XIX. 1-10.
	(85)	Mark	X. 46-52.
	(86)	Luke	XIX. 11-28.
X. From the entry into Jerusalem to the Crucifixion. April 2 to 7, A.D. 29.	(87)	John	XI. 55-57. XII. 1-11.
	(88)	Luke	XIX. 28-48.
	(89)	John	XII. 12-27.
	(90)		XII. 35-37. and 42-50.
	(91)	Mark	XI. 12-19.

[1] (To be read at home 29-44.)

	(92)		XI. 20-33.
	(93)		XII. 1-12.
	(94)	Matt.	XXII. 1-14.
	(95)	Mark	XII. 13-27.
	(96)		XII. 28-34.
	(97)		XII. 35-44.
	(98)	Matt.	XXV. 1-13.
	(99)		XXV. 14-30.
	(100)		XXV. 31-46.
	(101)	Mark	XIII. 1-13.
	(102)		XIV. 1-11.
The Last Supper.	(103)		XIV. 10-25.
	(104)	John	XIII. 2-30.
	(105)		XIII. 31-38.
			XIV. 1-7.
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	(2)		I. 15-26.

[1] Cf. John XVIII. 1-15.

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	(4)	II. 14-47.
	(5)	III. 1-10.
	(6)	III. 11-26.
		IV. 1-4.
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	(14)	VIII. 4-13.
	(15)	VIII. 14-25.
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	(18)	IX. 20-30.[2]
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		XIV. 1-7.
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	(29)	XV. 1-35.
	(30)	XV. 36-41.
		XVI. 1-5.
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	(33)	XVII. 1-15.
	(34)	XVII. 16-34.
	(35)	XVIII. 1-11.
Letters to the Thessalonians written from Corinth. A.D. 50, winter.	(36) 1 Thess.	I. 1-10.
	(37)	II. 1-16.
	(38)	II. 17-20.

[1] Cf. XXII. 6-16. [2] Cf. XXII. 17-21.

	(39)	III. 1-13.
	(40)	IV. 9-18.
		V. 1-11.
	(41)	V. 12-28.
	(42) 2 Thess.	I. 1-6.
		11-12.
	(43)	II. 13-17.
		III. 1-18.
	(44) Acts	XVIII. 12-23.
	(45)	XVIII. 24-28.
		XIX. 1-10.
	(46)	XIX. 11-20.
V. The Sufferings of Paul and his defence of the Gospel. A.D. 54-60.	(47) Acts	XIX. 21-22.
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	(49)	I. 18-31.
	(50)	II. 1-16.
	(51)	III. 1-23.
	(52)	IV. 1-21.
	(53)	IX. 19-27.
	(54)	XII. 1-31.
	(55)	XIII. 1-13.
	(56)	XIV. 1-20.
	(57)	XV. 1-19.
	(58)	XV. 20-34.
	(59)	XV. 35-58.
		XVI. 1-24.
	(60) Acts	XIX. 21-41.
Letter to the Corinthians written from Macedonia. A.D. 54, summer.	(61) Acts	XX. 1.
	2 Cor.	I. 1-16.
	(62)	II. 1-17.
	(63)	III. 1-18.
	(64)	IV. 1-15.
	(65)	IV. 16-18.
		V. 1-10.
	(66)	V. 11-21.
		VI. 1-10.
	(67)	VII. 4-16.
	(68)	VIII. 1-24.
	(69)	IX. 1-15.
	(70)	XI. 22-33.

Letter to the Corinthians written from Macedonia. A.D. 54, summer (*continued*).	(71)	2 Cor.	XII. 1-19.
	(72)		XII. 19-21.
			XIII. 1-15.
Letter to the Galatians written from Macedonia. A.D. 54, summer.	(73)	Gal.	I. 1-10.
	(74)		I. 11-24.
			II. 1-16.
	(75)		III. 15-29.
			IV. 1-11.
	(76)		IV. 12-31.
			V. 1.
	(77)		V. 2-26.
	(78)		VI. 1-18.
Letter to the Romans written from Corinth. A.D. 54, winter.	(79)	Acts	XX. 2.
		Rom.	I. 1-17.
	(80)		I. 18-25.
			28-32.
			II. 1-16.
	(81)		II. 17-29.
			III. 1-8.
	(82)		III. 9-31.
	(83)		V. 1-11.
	(84)		V. 12-21.
	(85)		VI. 1-11.
	(86)		VI. 12-23.
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	(89)		VIII. 12-28.
	(90)		VIII. 31-39.
	(91)		IX. 30-33.
			X. 1-17.
	(92)		XI. 1.
			12-36.
	(93)		XII. 1-21.
	(94)		XIII. 1-14.
	(95)		XIV. 1-13.
	(96)		XV. 13-33.
	(97)		XVI. 1-27.[1]
	(98)	Acts	XX. 3-16.
	(99)		XX. 17-38.
	(100)		XXI. 1-14.
	(101)		XXI. 15-26.

[1] Condense and note special names.

	(102)		XXI. 27-40.
			XXII. 1-2.
	(103)		XXII. 1-29.
	(104)		XXII. 30.
			XXIII. 1-11.
	(105)		XXIII. 12-35.
	(106)		XXIV. 1-27.
	(107)		XXV. 1-22.
	(108)		XXV. 23-27.
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VI. The journey to Rome. Ship-	(109)	Acts	XXVII. 1-8.
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Rome and two years' free	(111)		XXVII. 27-46.
captivity. A.D. 57-60.	(112)		XXVIII. 1-10.
	(113)		XXVIII. 11-31.
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brother. About A.D. 55-60.	(115)		I. 12-27.
	(116)		II. 1-13.
	(117)		II. 14-26.
	(118)		III. 1-18.
	(119)		IV. 1-12.
	(120)		IV. 13-17.
			V. 1-6.
	(121)		V. 7-20.
Letter to the Philippians	(122)	Phil.	I. 1-11.
written during the two years'	(123)		I. 12-30.
detention of Paul at Rome.	(124)		II. 1-18.
A.D. 58-60.	(125)		II. 19-30.
	(126)		III. 1-21.
	(127)		IV. 1-23.
Letter to the Ephesians of	(128)	Eph.	I. 1-14.
same period.	(129)		I. 15-23.
	(130)		II. 1-10.
	(131)		II. 11-22.
	(132)		III. 1-13.
	(133)		III. 14-21.
	(134)		IV. 1-16.
	(135)		IV. 17-32.
	(136)		V. 1-21.
	(137)		V. 22-23.
			VI. 1-9.
	(138)		VI. 10-24.

Letter to the Colossians of the same period.	(139)	Col.	I. 1-23.
	(140)		I. 24-29.
			II. 1-7.
	(141)		II. 8-25.
	(142)		III. 1-11.
	(143)		III. 12-25.
			IV. 1.
	(144)		IV. 2-13.
Letter to Philemon about the slave Onesimus.	(145)	Philemon.	
Pastoral letters to Timothy and Titus after Paul's release. A.D. 60-64.	(146)	1 Tim.	I. 1-17.
	(147)		I. 18-20.
			II. 1-11.
	(148)		IV. 1-16.
	(149)		V. 1-8.
	(150)		V. 17-25.
	(151)		VI. 1-16.
	(152)		VI. 17-21.
	(153)	2 Tim.	I. 1-18.
	(154)		II. 1-14.
	(155)		II. 15-26.
	(156)		III. 1-5.
			10-17.
	(157)		IV. 1-22.
	(158)	Titus	I. 1-16.
	(159)		II. 1-15.
	(160)		III. 1-15.
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	(162)		I. 13-25.
	(163)		II. 1-12.
	(164)		II. 13-25.
	(165)		III. 1-22.
	(166)		IV. 1-11.
	(167)		IV. 12-19.
	(168)		V. 1-14.
Letters of John.	(169)	1 John	I. 1-10.
	(170)		II. 1-17.
			28-29.
	(171)		III. 1-12.
	(172)		III. 13-24.
	(173)		IV. 7-21.
	(174)		V. 1-12.

	(175)	v. 13-21.
	(176) 2 John.	
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tira, Sardis, Philadelphia,	(183)	iii. 14-22.
and Laodicea.		
	(184)	iv. 1-11.
	(185)	v. 1-14.
	(186)	vii. 1-17.
	(187)	xviii. 1-24.
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